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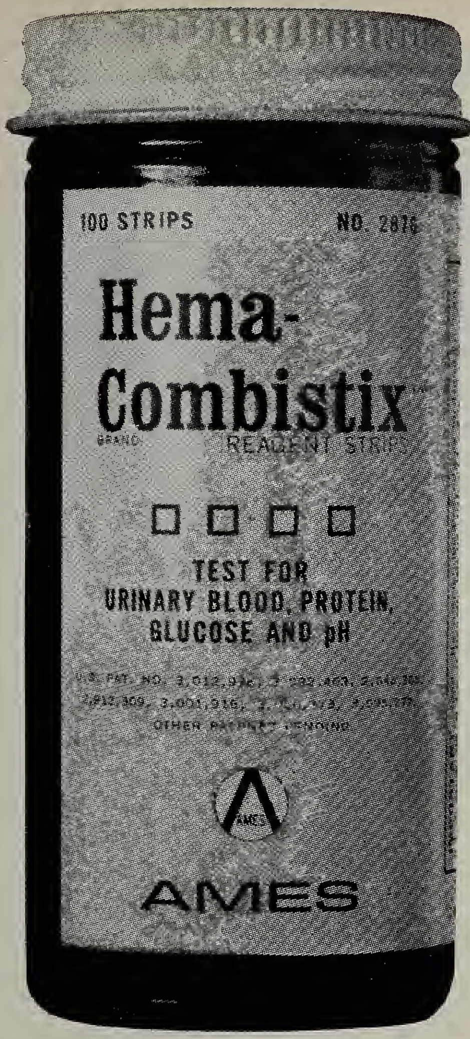
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Saul J. Robinson, San Francisco	1965
John B. deC. M. Saunders, San Francisco	1965
David A. Wood, San Francisco	1965
Grace B. Bell, Los Angeles	1966
Gerson R. Biskind, San Francisco	1966
Leland B. Blanchard, San Jose	1966
Eugene M. Farber, Palo Alto	1966
A. J. Franzi, San Francisco	1966
L. S. Goerke, Los Angeles	1966
George C. Griffith, Los Angeles	1966
Joseph J. Kaufman, Los Angeles	1966
Alonzo J. Neufeld, Los Angeles	1966
Donald W. Petit, Pasadena	1966
Paul C. Samson, Oakland	1966
Edward B. Shaw, San Francisco (Chmn.)	1966
Malcolm S. M. Watts, San Francisco	1966

EX-OFFICIO: Dwight L. Wilbur, San Francisco

Executive Committee

William W. Belford, San Diego	1964
L. Henry Garland, San Francisco	1964
Clayton G. Loosli, Los Angeles	1964
Victor Richards, San Francisco	1964
Lewis T. Bullock, Los Angeles	1965
Albert C. Daniels, San Francisco	1965
Edward B. Shaw, San Francisco (Chmn.)	1966
George C. Griffith, Los Angeles	1966
Malcolm S. M. Watts, San Francisco	1966

EX-OFFICIO: Dwight L. Wilbur, San Francisco

Committee on Scientific Assemblies

Victor Richards, San Francisco (Chmn.)	1964
John B. Dillon, Los Angeles	1964
Lowell A. Rantz, Palo Alto	1964
Albert C. Daniels, San Francisco	1965
William P. Longmire, Jr., Los Angeles	1965
J. G. Moore, Los Angeles	1965
Telfer B. Reynolds, Los Angeles	1965
J. B. deC. M. Saunders, San Francisco	1965
George C. Griffith, Los Angeles	1966

Committee on CALIFORNIA MEDICINE

Don King, San Francisco	1964
Clayton G. Loosli, Los Angeles (Chmn.)	1964
David Rubin, Los Angeles	1964
Grace B. Bell, Los Angeles	1966
Eugene M. Farber, Palo Alto	1966

Committee on Nominations

William W. Belford, San Diego	1964
William P. Longmire, Jr., Los Angeles	1965
Malcolm S. M. Watts, San Francisco (Chmn.)	1966

Continuing Medical Education

Victor Richards, San Francisco	1964
Albert C. Daniels, San Francisco (Chmn.)	1965
A. J. Franzi, San Francisco	1966
Alonzo J. Neufeld, Los Angeles	1966
Donald W. Petit, Pasadena	1966

Scientific Information

L. Henry Garland, San Francisco (Chmn.)	1964
Edmund L. Keeney, La Jolla	1965
Stuart C. Knox, Hollywood	1965
Gerson R. Biskind, San Francisco	1966
L. S. Goerke, Los Angeles	1966

Committee on Maternal and Child Care

Russell W. Mapes, Beverly Hills	1964
Keith P. Russell, Los Angeles (Chmn.)	1964
Charles M. Blumenfeld, Sacramento	1965
Herbert A. Holden, San Leandro	1965
Saul J. Robinson, San Francisco	1965
Leland B. Blanchard, San Jose	1966
James W. Ravenscroft, San Diego	1966

Committee on Cancer

John W. Cline, San Francisco	1964
Sol R. Baker, Beverly Hills	1965
Walter E. Heck, San Francisco	1965
John G. Walsh, Sacramento	1965
David A. Wood, San Francisco (Chmn.)	1965
Burt L. Davis, Palo Alto	1966
Paul C. Samson, Oakland	1966

SUB-COMMITTEES, COMMITTEE ON CANCER:

Committee on Cancer Education

Sol R. Baker, Beverly Hills (Chmn.)	1964
Paul H. Deeb, Loma Linda	1964
Werner Duemling, San Diego	1964
Byron Hall, San Francisco	1964
Robert W. Jamplis, Palo Alto	1964

Committee on Tumor Tissue Registry

E. M. Butt, Los Angeles	1964
John W. Cline, San Francisco (Chmn.)	1964
Lewis M. Guiss, Los Angeles	1964
James E. Kahler, Los Angeles	1964
Carl M. McCandless, San Francisco	1964

Committee on Consultative Tumor Boards

Bert L. Halter, San Francisco	1964
Walter E. Heck, San Francisco (Chmn.)	1964
Carl L. Moore, Bakersfield	1964
Otto Pflueger, San Francisco	1964
Victor Richards, San Francisco	1964

Committee on New and Unproved Methods of Cancer Treatment

Dexter T. Ball, Santa Ana	1964
L. Henry Garland, San Francisco	1964
Paul C. Samson, Oakland (Chmn.)	1964
Ray Seavers, Jr., San Bernardino	1964
Jerome A. Weinbaum, Chico	1964

CONSULTANT:

Kenneth F. Ernst, Berkeley

* * *

Finance COMMITTEE

Donald M. Campbell, San Francisco
James W. Dalton, Santa Barbara
Burt L. Davis, Palo Alto (Chmn.)
John F. Murray, Fresno
J. Norman O'Neill, Los Angeles

* * *

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Ford P. Cady, Los Angeles (Chmn.)
Alexander Fraser, San Francisco
Elizabeth Mason Hohl, Los Angeles
Don C. Musser, San Francisco
George Wolf, Fresno

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Franklin F. Ham, Van Nuys
John Morrison, San Leandro

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Members who contemplate presentation of scientific papers should promptly address the secretary of the proper section at the address shown below.

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150 Arch Street, Redwood City 94062
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3616 Main Street, Riverside 92501

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439 30th Street, Oakland 94609

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2025 Zonal Avenue, Los Angeles 90033
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333 North San Mateo Drive, San Mateo 94401

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Leland B. Blanchard.........Assistant Secretary
678 East Santa Clara Street, San Jose 95112

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478 30th Street, Oakland 94609
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San Francisco 94110
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O. Leonard Huddleston.........Secretary
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Woodland 95696
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100 North Garfield Avenue, Pasadena 91101
Anita E. Faverman.........Assistant Secretary
Alameda County Health Dept., 499 Fifth
Street, Oakland 94607

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411 30th Street, Oakland 94609
Allen J. Enelow.........Secretary
910 Via de la Paz, Pacific Palisades 90272
George Y. Abe.........Assistant Secretary
Metropolitan State Hospital, Norwalk 90650

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John L. Gwinn.........Secretary
Children's Hospital, 4614 Sunset Boulevard,
Los Angeles 90027
John C. Bennett.........Assistant Secretary
St. Mary's Hospital, 2200 Hayes Street,
San Francisco 94117

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4911 Van Nuys Boulevard, Van Nuys 91403
Michael J. Feeney.........Secretary
3415 Sixth Avenue, San Diego 92103
Carl E. Burkland.........Assistant Secretary
5301 F Street, Sacramento 95819

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TO THE AMERICAN MEDICAL ASSOCIATION

DELEGATES		ALTERNATES
Leopold H. Fraser, Richmond	(1963-1964)	Hartzell H. Ray, San Mateo
Arthur A. Kirchner, Los Angeles	(1963-1964)	Dudley M. Cobb, Los Angeles
Dwight L. Wilbur, San Francisco	(1963-1964)	Francis J. Cox, San Francisco
J. Norman O'Neill, Los Angeles	(1963-1964)	William F. Quinn, Los Angeles
J. Lafe Ludwig, Los Angeles	(1963-1964)	Harold Kay, Oakland
Burt L. Davis, Palo Alto	(1963-1964)	Leon P. Fox, San Jose
Arlo A. Morrison, Ventura	(1963-1964)	John G. Morrison, San Leandro
James E. Feldmayer, Exeter	(1963-1964)	Charles Grayson, Sacramento
O. W. Wheeler, Riverside	(1963-1964)	Wilbur Bailey, Los Angeles
Malcolm C. Todd, Long Beach	(1963-1964)	Alfred J. Murieta, Jr., Los Angeles
J. E. Vaughan, Bakersfield	(1963-1964)	Joseph P. O'Connor, Pasadena
Samuel R. Sherman, San Francisco	(1964-1965)	Albert G. Miller, San Mateo
Henry Gibbons, III, San Francisco	(1964-1965)	Robert Combs, San Francisco
John M. Rumsey, San Diego	(1964-1965)	Francis E. West, San Diego
Eugene F. Hoffman, Los Angeles	(1964-1965)	Edward H. Crane, Jr., Inglewood
Warren L. Bostick, San Rafael	(1964-1965)	Walter H. Brignoli, St. Helena
J. B. Price, Santa Ana	(1964-1965)	Donald C. Dodds, Oakland
Ralph C. Teall, Sacramento	(1964-1965)	Robb Smith, Orange Cove
James C. Doyle, Beverly Hills	(1964-1965)	Homer C. Pheasant, Los Angeles
Wilbur G. Rogers, Glendale	(1964-1965)	Carl M. Hadley, San Bernardino
Charles B. Hudson, Oakland	(1964-1965)	Robert L. Watson, Jr., Los Angeles

(Delegates and Alternates to the A. M. A. are elected for terms of two calendar years. Each office is scheduled for election at the Annual Session of the second year shown above.)

Other Organizations and Medical Schools

Board of Medical Examiners of the State of California

Secretary.........Raymond M. Wallerius
1021 O Street, Room A547, Sacramento 95814
San Francisco.........455 Golden Gate Ave.
Room 4184 94102
Los Angeles.........107 South Broadway 90012
Sacramento....1021 O Street, Room A547 95814

The Public Health League of California

Executive Secretary.........Ben H. Read
510 South Spring Street, Los Angeles 90013
Associate Executive Secretary.........E. E. Salisbury
693 Sutter Street, San Francisco 94102
San Francisco.........693 Sutter Street 94102
GRaystone 4-1061
Los Angeles.........510 South Spring Street 90013
MAdison 6-6151

Department of Public Health of the State of California

Director.........Malcolm H. Merrill, M.D.
2151 Berkeley Way, Berkeley 94704
Berkeley.........2151 Berkeley Way 94704
THornwall 3-7900
Sacramento.........631 J Street 95814
HIckory 2-4711
Los Angeles.........703 State Building 90012
MAdison 0-2900

Medical Schools in California

University of California School of Medicine, Medical Center, San Francisco 94122. Dean: William O. Reinhardt, M.D.

Stanford University School of Medicine, 300 Pasteur Drive, Palo Alto 94304. Dean: Robert H. Alway, M.D.

University of Southern California School of Medicine, 2025 Zonal Avenue, Los Angeles 90033. Dean: Clayton G. Loosli, M.D.

Loma Linda University, School of Medicine, 1720 Brooklyn Avenue, Los Angeles 90033. Dean: David Burdg Hinshaw, M.D.

University of California at Los Angeles, School of Medicine, Hilgard Avenue, Los Angeles 90024. Dean: Sherman M. Mellinkoff, M.D.

California College of Medicine: 1721 Griffin Avenue, Los Angeles 90031. Acting Dean: Grace B. Bell, M.D.

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* Deceased.

Roster — CALIFORNIA COMPONENT MEDICAL SOCIETIES

Society secretaries are requested to notify California Medicine promptly when changes are indicated in their roster information

ALAMEDA-CONTRA COSTA Medical Assn., 6230 Claremont Ave., Oakland 94618. Meets quarterly.
Paul H. Cronenwett..........President
6230 Claremont Ave., Oakland 94618
J. Brandon Bassett..........Secretary
2930 McClure St., Oakland 94609

BUTTE-GLENN Medical Society, P. O. Box 1008, Chico 95927. Meets Fourth Thursday.
Jay O. Gibson..........President
170 E. 2nd Ave., Chico 95926
Dale W. Ritter..........Secretary
6 Cohasset Circle, Chico 95926

FORTY FIRST Medical Society, 4775 Santa Monica Blvd., Los Angeles 90029.
Milton S. Futterman..........President
4477 Whittier Blvd., Los Angeles 90022
Glenn F. Gordon..........Secretary
1630 Del Valle Ave., Glendale 91208

FRESNO County Medical Society, 2155 Amador, Fresno 93721. Meets Second Tuesday, 6:30 p.m., Sunnyside Country Club.
Norman E. Tostenson..........President
1223 Wishon Ave., Fresno 93728
Joseph B. Ford, Jr...........Secretary
2940 Fresno St., Fresno 93721

HUMBOLDT-DEL NORTE County Medical Society. Meets Second Thursday.
Robert Devine..........President
730 7th St., Eureka 95501
Wells Carey..........Secretary
2822 E St., Eureka 95501

IMPERIAL County Medical Society. Meets Second Tuesday, 8 p.m., Pioneer Memorial Hospital, Brawley.
Nathan Wolf..........President
126 Main St., Brawley 92227
Ernest Brock..........Secretary
200 S. Imperial Ave., Imperial 92251

INYO-MONO County Medical Society. Meets Fourth Tuesday except December, January, February.
D. L. Christenson..........President
380 N. Mt. Whitney Dr., Lone Pine 93545
W. Ray Hartwig..........Secretary
459 West Line, Bishop 93514

KERN County Medical Society, 2603 G Street, Bakersfield 93301. Meets Third Tuesday, 7:30 p.m., Society Office, 2603 G Street, except June, July, August.
Hans E. Einstein..........President
2441 "G" St., Bakersfield 93301
Keith W. Spaulding..........Secretary
2521 "G" St., Bakersfield 93301

KINGS County Medical Society. Meets Second Thursday, 7:00 p.m. Place to be announced.
Clyde Ball..........President
1320 Whitley Ave., Corcoran 93212
Edwin E. Kerr..........Secretary
208 N. Douty St., Hanford 93230

LASSEN-PLUMAS-MODOC-SIERRA County Medical Society. Meets on call.
Joseph F. Narkevitz..........President
P. O. Box 637, Quincy 95971
Lloyd Shannon..........Secretary
P.O. Box 963, Alturas 96101

LOS ANGELES County Medical Assn., 1925 Wilshire Blvd., Los Angeles 90057. Meets First and Third Thursdays, 1925 Wilshire Blvd., Los Angeles.
Elmer F. Gooel..........President
1925 Wilshire Blvd., Los Angeles 90057
George C. Andersen..........Secretary
1925 Wilshire Blvd., Los Angeles 90057

MARIN Medical Society, 1601 Second St., Suite 106, San Rafael 94901. Meets First Thursday, 7:00 p.m.
Calvin Plumhof..........President
711 D St., San Rafael 94901
John McGee..........Secretary
712 D St., San Rafael 94901

MENDOCINO-LAKE County Medical Society.
Thomas Nicholson..........President
408 W. Perkins St., Ukiah 95482
Patrick R. Allanson..........Secretary
728 S. State St., Ukiah 95482

MERCED County Medical Society. Meets Fourth Thursday, Hotel Tioga, Merced.
George W. Porter..........President
517 W. 23rd St., Merced 95340
Patrick J. Maloney..........Secretary
656 West 20th St., Merced 95340

MONTEREY County Medical Society, P. O. Box 308, Salinas 93903. Meets First Thursday.
Osman H. Hull..........President
716 Cass St., Monterey 93940
Joseph E. Turner..........Secretary
1073 Cass St., Monterey 93940

NAPA County Medical Society. Meets Second Wednesday, 980 Trancas St., Napa 94558
E. Paul White, Jr...........President
980 Trancas St., Napa 94556
Richard Clark..........Secretary
1054 Beard Rd., Napa 94558

ORANGE County Medical Association, 300 S. Flower, Orange 92666. Meets First Tuesday, 7:00 p.m.
Hugh J. Plumb, Jr...........President
1901 Westcliff Dr., Newport Beach 92663
Laurance A. Mosier..........Secretary
10510 Chapman St., Garden Grove 92640

PLACER-NEVADA County Medical Society. Meets Second Wednesday.
Clifford W. Wauters..........President
701 High St., Auburn 95603
Arthur R. Weaver..........Secretary
701 High St., Auburn 95603

RIVERSIDE County Medical Association, 4175 Brockton Ave., Riverside 92501. Meets Second Monday, 8:00 p.m., El Loro Room, Mission Inn.
William M. Kinney..........President
4175 Brockton Ave., Riverside 92501
Richard W. Trotter..........Secretary
4175 Brockton Ave., Riverside 92501

SACRAMENTO Society for Medical Improvement, 5380 Elvas Ave., Sacramento 95819. Meets Third Tuesday, 8:30 p.m., Sutter Hospital Auditorium.
Glenn A. Pope..........President
2600 Capitol Ave., Sacramento 95818
Orrin S. Cook..........Secretary
1116 - 26th St., Sacramento 95816

SAN BENITO County Medical Society. Meets once a month, except July and August. Time and place to be announced.
Kent S. Taylor..........President
345 5th St., Hollister 95023
Robert D. Quinn..........Secretary
535 Monterey St., Hollister 95023

SAN BERNARDINO County Medical Society, 1875 N. D St., San Bernardino 92405. Meets First Tuesday, 7:30 p.m., Harold's Club, Fontana.
Merlin A. Hendrickson..........President
238 N. Riverside Ave., Rialto 92376
Nicholas P. Krikes..........Secretary
25060 Base Line, San Bernardino 92410

SAN DIEGO County Medical Society, 3427 - 4th Ave., San Diego 92103. Meets Second Tuesday. Location of meetings varies.
Walter R. Nickel..........President
233 A St., San Diego 92101
Purvis L. Martin..........Secretary
2105 5th Ave., San Diego 92101

SAN FRANCISCO Medical Society, 250 Masonic Ave., San Francisco 94118.
John B. Schaupp..........President
250 Masonic Ave., San Francisco 94118
George K. Herzog, Jr..........Secretary
250 Masonic Ave., San Francisco 94118

SAN JOAQUIN County Medical Society. Meets First Thursday, 8:15 p.m., 445 W. Acacia St., P. O. Box 230, Stockton 95201.
James J. Benn, Jr..........President
P.O. Box 230, Stockton 95201
Dora A. Lee..........Secretary
2420 N. California St., Stockton 95204

SAN LUIS OBISPO County Medical Society. Meets Third Saturday, 7:00 p.m., Anderson Hotel, San Luis Obispo 93402.
Richard W. Eells..........President
743 Pismo St., San Luis Obispo 93401
Richard W. Cletsoway..........Secretary
705 Grand Ave., San Luis Obispo 93402

SAN MATEO County Medical Society, 122 El Camino Real, San Mateo 94401. Meets Third Tuesday.
Ward L. Hart..........President
100 Laurel Ave., San Carlos 94401
Howard W. Lindsey..........Secretary
323 N. San Mateo Dr., San Mateo 94401

SANTA BARBARA County Medical Society, 300 W. Pueblo St., Santa Barbara 93105. Meets Second Monday of the month, University Club, 1332 Santa Barbara St., Santa Barbara.
H. L. Stewart, Jr..........President
300 W. Pueblo St., Santa Barbara 93105
Thurman K. Hill..........Secretary
300 W. Pueblo St., Santa Barbara 93105

SANTA CLARA County Medical Society, 1960 The Alameda, San Jose 95126. Meets First Monday.
S. Fred Kaufman..........President
1960 The Alameda, San Jose 95126
Jacob M. Stone..........Secretary
1960 The Almeda, San Jose 95126

SANTA CRUZ County Medical Society. Meets every Second Month, Second Tuesday. Time, place to be announced.
F. H. Koepke..........President
850 Main St., Watsonville 95076
John W. Morris..........Secretary
230 Walnut Ave., Santa Cruz 95060

SHASTA-TRINITY County Medical Society. Meets Second Monday of the month. Place to be announced.
Vernon R. Gee..........President
1348 Market St., Redding 96001
Melvin L. Gumm..........Secretary
1760 Gold St., Redding 96001

SISKIYOU County Medical Society. Meets Sunday on call.
Jack K. Landon..........President
750 S. Main St., Yreka 96097
William D. Schnack..........Secretary
8 Main St., Weed 96094

SOLANO County Medical Society. Meets Second Tuesday, 8:00 p.m., at different meeting places.
R. Matthew Gibbons..........President
1200 Marin St., Vallejo 94590
John C. Miller..........Secretary
410 Tennessee St., Vallejo 94590

SONOMA County Medical Society, 576 B Street, Santa Rosa 95401. Meets Second Thursday.
A. A. Thurlow, Jr...........President
576 B St., Santa Rosa 95401
Tetsuro Fujii..........Secretary
576 B St., Santa Rosa 95401

STANISLAUS County Medical Society, 303 Downey Ave., Modesto. Meets Third Tuesday of the month, 7 p.m., Hotel Covell, Modesto 95354.
John S. Woolley..........President
808 13th St., Modesto 95354
Jeanne I. Miller..........Secretary
709 - 18th St., Modesto 95354

TEHAMA County Medical Society. Meets at call of President.
G. W. Ingle..........President
808 Almond St., Corning 96021
C. W. Winning..........Secretary
530 Main St., Red Bluff 96080

TULARE County Medical Society, 1640 West Mineral King, P. O. Box 16, Visalia 93278.
James W. Goettle..........President
424 E. Tulare Ave., Tulare 93274
Philip S. Barber..........Secretary
P. O. Box 16, Visalia 93278

VENTURA County Medical Society. Meets Second Tuesday each month, 7:30 p.m., Los Posas Country Club, Camarillo.
Henry J. Rulfo..........President
302 Glen Ellen Dr., Ventura 93003
F. K. Helbling..........Secretary
3081 Loma Vista Rd., Ventura 93003

YOLO County Medical Society. Meets First Wednesday.
Spencer T. Chester..........President
Woodland Clinic, Woodland 95675
Samuel C. Houston..........Secretary
3 Court St., Woodland 95695

YUBA-SUTTER-COLUSA County Medical Society, 370 Del Norte Ave., Yuba City 95991. Meets Second Tuesday.
Robert H. Greeley..........President
725 4th St., Marysville 95901
Norman K. Noordhoff..........Secretary
320 G St., Marysville 95901

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Herman H. Stone	Riverside
William H. Thompson	San Mateo
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John E. Vaughan	Bakersfield
Milo A. Youel	San Diego

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†Non-Trustee Members.

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Gregory C. Murray	Los Angeles
Stanley R. Truman	Oakland
Milo A. Youel	San Diego

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Herman H. Stone	Riverside
T. Eric Reynolds†	Oakland
Donald Fitch†	Glendale

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Warren L. Bostick	San Rafael
Mr. Thomas Hadfield	San Francisco
Angus C. McDonald	Huntington Park
Milo A. Youel	San Diego

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Gregory C. Murray	Los Angeles
William H. Thompson	San Mateo
John E. Vaughan	Bakersfield
Robert Day†	Bakersfield

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Mr. Thomas Hadfield	San Francisco
Mr. Philip S. Magruder	Pasadena
Wilbur G. Rogers	Glendale
Bert Halter†	San Francisco
John G. Morrison†	San Leandro

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Herman H. Stone, Vice-Chairman	Riverside
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Wilbur G. Rogers	Glendale
John E. Vaughan	Bakersfield
M. M. Haskell†	Long Beach
John I. McGirr, Jr.†	Encino
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BOOKS RECEIVED

Books received by CALIFORNIA MEDICINE *are acknowledged in this column. Selections will be made for more extensive review in the interest of readers as space permits.*

ALCOHOL AND CIVILIZATION—edited by Salvatore Pablo Lucia, M.D., Sc.D., Professor of Medicine and Preventive Medicine; Chairman of the Department of Preventive Medicine; Lecturer in Medical History and Bibliography; Consulting Physician in Oncology; University of California School of Medicine, San Francisco, California; McGraw-Hill Book Company, Inc., New York, San Francisco, Toronto, London, 1963. 416 pages, $3.95. (McGraw-Hill Paperbacks.)

ATLAS OF BONE TUMORS—Including Tumorlike Lesions—W. S. Gilmer, Jr., M.D., F.C.A.P., Visiting Lecturer in Pathology, University of North Carolina, Chapel Hill, N. C.; Pathologist to the Cape Fear Valley Hospital, Fayetteville, N. C.; formerly Associate Professor of Pathology, University of Tennessee, Memphis, Tenn., and Pathologist to Willis C. Campbell Clinic and Hospital, Memphis, Tenn.; G. B. Higley, Jr., M.D., Memphis, Tenn.; and W. E. Kilgore, M.D., Memphis, Tenn. The C. V. Mosby Company, 3207 Washington Boulevard, St. Louis 3, Mo., 1963. 165 pages, $27.50.

ATLAS OF PLASTIC SURGERY—Second Edition, revised and enlarged—Morton I. Berson, M.D., formerly Director of the Department of Plastic and Reconstructive Surgery, The Downtown Hospital and Pan-American Clinic, New York City, and Plastic Surgery Staff, Manhattan General Hospital. Grune & Stratton, Inc., 381 Park Avenue South, New York 16, N. Y., 1963. 336 pages, $23.00.

BIOCHEMICAL DIAGNOSIS OF HEART DISEASE, THE—Clarence M. Agress, M.D., F.A.C.C., F.A.C.P., Associate Clinical Professor of Medicine, University of California, Los Angeles, California; Chief of Cardiology, Cedars of Lebanon Hospital, Los Angeles, California; and Harley M. Estrin, M.D., Research Cardiologist, Institute for Medical Research; Adjunct Attending Physician, Department of Medicine, Cedars of Lebanon Hospital, Los Angeles, California; (Publication Number 548, American Lecture Series. A Monograph in The Bannerstone Division of American Lectures in Living Chemistry. Edited by I. Newton Kugelmass, M.D., Ph.D., Sc.D., Consultant to the Departments of Health and Hospitals, New York, N. Y.) Published and distributed throughout the world by Charles C. Thomas, Publisher, Bannerstone House, 301-327 East Lawrence Avenue, Springfield, Ill., U.S.A., 1963. 173 pages, $7.75.

CARE OF THE GERIATRIC PATIENT, THE—Second Edition—edited by E. V. Cowdry, Ph.D., Sc.D. (Hon.), F.R.M.S. (Hon.), Professor Emeritus of Anatomy, Washington University, St. Louis, Mo.; Director of Research, Scientific Associates, Inc., St. Louis, Mo. The C. V. Mosby Co., 3207 Washington Blvd., St. Louis 3, Mo., 1963. 566 pages, $11.85.

COLUMBIA-PRESBYTERIAN THERAPEUTIC TALKS—Topics in Medicine for the Internist and General Physician—edited by Hamilton Southworth, M.D., and Frederick G. Hofmann, Ph.D., College of Physicians and Surgeons, Columbia University and Columbia-Presbyterian Medical Center, New York City. The Macmillan Company, New York, and Collier-Macmillan Limited, London, 1963. 198 pages. (No price quoted.)

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NEW BOOK

CLINICAL TOXICOLOGY OF COMMERCIAL PRODUCTS: Acute Poisoning (Home and Farm). By Marion N. Gleason, Robert E. Gosselin, M.D., and Harold C. Hodge, Ph.D. 2nd ed. 1207 pages. Illustrated. (1963) Williams & Wilkins. $22.

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DISEASES OF THE EAR—Stuart R. Mawson, M.B. (Camb.), F.R.C.S., D.L.O. (Lond.), Surgeon, Ear, Nose and Throat Department, King's College Hospital, (including Belgrave Hospital for Children), London; Consultant Ear, Nose and Throat Surgeon, Queen Mary's Hospital, (Roehampton) London. The Williams & Wilkins Co., Baltimore 2, Md., 1963. 559 pages, $19.00.

DOZEN DOCTORS, A—Autobiographic Sketches—edited by Dwight J. Ingle. The University of Chicago Press, Chicago & London, 1963. 287 pages, $5.50.

EARLY CANCER—Prevention, Detection, Course, Treatment—Leonard B. Goldman, M.D., Chairman, Tumor Conference and Director, Radiation Medicine Department, Queens Hospital Center; Consultant Radiation Therapist, Flushing, Booth Memorial, St. Joseph's (Far Rockaway), South Nassau Communities and Peninsula General Hospitals, New York. Formerly, Clinical Professor of Radiotherapy, New York Medical College, Flower and Fifth Avenue Hospitals. Grune & Stratton, Inc., 381 Park Avenue South, New York, N. Y., 10016, 1963. 324 pages, $12.50.

GASTRIC SURGERY—Errors, Safeguards, and Management of Malfunction Syndromes—Moses E. Steinberg, M.S., M.D. Research Associate in Physiology, University of Oregon Medical School; Attending Surgeon, Emanuel Hospital; formerly Senior on the Surgical Service of U. S. Public Health Hospital and Consultant Surgeon to the Veterans Bureau, Portland, Oregon. Appleton-Century-Crofts, Division of Meredith Publishing Company, 440 Park Avenue South, New York, N. Y., 1963. 342 pages, $12.95.

HAEMATOLOGICAL TECHNIQUE FOR MEDICAL LABORATORY TECHNICIANS AND MEDICAL STUDENTS—Third Edition—E. M. Darmady, M.A., M.D. (Camb.), F.R.C.P., Senior Pathologist, Portmouth and Isle of Wight Area Pathological Service; formerly Assistant Pathologist, Salisbury General Infirmary and Wiltshire County Council; Pathological Specialist R.A.F.V.R.; Demonstrator of Pathology, St. Bartholomew's Hospital, London; and S. G. T. Davenport, F.I.M.L.T., formerly Chief Technician, Portsmouth and Isle of Wight Area Pathological Service. Grune and Stratton Inc., 381 Park Avenue South, New York 16, N.Y., 1963. 263 pages, with 4 colored plates and 22 text figures, $5.00.

HYPOXIA—Edward J. Van Liere, M.D., and J. Clifford Stickney. The University of Chicago Press, 5750 Ellis Avenue, Chicago 37, Ill., and London, 1963. 381 pages, $8.75.

MEDICAL HYDROLOGY (Seventh Volume of Physical Medicine Library)—edited by Sidney Licht, M.D., Honorary Member, British Association of Physical Medicine, Danish Society of Physical Medicine, and the French National Society of Physical Medicine; assisted by Herman L. Kamenetz, M.D. Elizabeth Licht, Publisher, 360 Fountain Street, New Haven, Connecticut, 1963. 714 pages, $16.00.

POTENTIAL OF WOMAN, THE—Man and Civilization—a Symposium; edited by Seymour M. Farber, M.D., and Roger H. L. Wilson, University of California San Francisco Medical Center, McGraw-Hill Book Company, Inc., New York, San Francisco, Toronto and London, 1963. 328 pages, $2.95 (Paperback); also available in hardcover at $7.50.

PROGRESS IN GYNECOLOGY—Volume IV—edited by Joe V. Meigs, M.D., Emeritus Professor of Gynecology, Harvard Medical School; Visiting Consulting Surgeon, Massachusetts General Hospital; Visiting Consulting Gynecologist, Vincent Memorial Hospital, Boston, Mass.; and Somers H. Sturgis, M.D., Surgeon (Gynecology), Peter Bent Brigham Hospital; Clinical Professor of Gynecology, Harvard Medical School, Boston, Mass. Grune & Stratton, Inc., 381 Park Avenue South, New York 16, N. Y., 1963. 676 pages, $16.75.

PROTEIN METABOLISM—Influence of Growth Hormone, Anabolic Steroids, and Nutrition in Health and Disease—An International Symposium, Leyden, 25th-29th June, 1962, sponsored by CIBA. A. Querido, Leyden, Chairman; edited by F. Gross, Basle. Springer-Verlag, Berlin, Gottingen, Heidelberg, 1962. 521 pages, with 159 figures. (No price given.)

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28. Samman, P. D., and Beer, W. E.: Fluocinolone acetonide, a new steroid preparation for topical use, *Brit J Derm 74*:96 (Mar) 1962.

29. Grupper, C. H.: Modern plastic materials as aids in external dermatological therapy, *Bull Soc Franc Derm Syph 69*:206 (Apr) 1962.

115 Reasons Why SYNALAR (fluocinolone acetonide) Is Replacing Hydrocortisone

30. Robinson, H. M., Jr.; Raskin, J.; and Dunseath, W. J. R.: Topical therapy with fluocinolone acetonide, *Bull Sch Med Univ Maryland 47*:21 (Apr) 1962.

31. Scherr, M.: Management and rehabilitation of allergic dermatoses, Presented at the National Med Congress, Mexico City (Apr) 1962.

32. Tye, M. J.: Plastic tape as occlusive dressing in psoriasis, Presented to the Dermatology Society of New England (Apr 25) 1962.

33. Abe, T., *et al*: Result in treatment of dermatoses with fluocinolone acetonide cream, *Acta Derm* (Kyoto) *57*:221 (May) 1962.

34. Goldman, L.: Increasing the efficiency of topical corticosteroid therapy, Presented at the Wisconsin Med Soc Meeting (May) 1962.

35. Grant Peterkin, G. A.; Morley, W. N.; and Chalmers, D.: Triamcinolone and fluocinolone acetonide ointments in atopic eczema, *Brit Med J 1*:1392 (May 19) 1962.

36. Sawyer, W. C.: Treatment of resistant dermatoses with a new compound, fluocinolone acetonide, *Ann Allerg 20*:330 (May) 1962.

37. Goldman, L., *et al*: A round table discussion: the management of psoriasis and current concepts regarding occlusive methods of treatment, Conference in Mexico City at the invitation of Syntex Laboratories, Inc. (Feb) 1962.

38. Tye, M. J., and Schiff, B. L.: Treatment of psoriatic lesions with topical fluocinolone acetonide and moist dressings, *J Invest Derm 38*:321 (June) 1962.

39. Yasuda, T.: Treatment of Pruritus, *Asian Med J 5*:253 (June) 1962.

40. Grupper, C. H.: Modern plastic materials and external therapy of psoriasis by corticoids, *Bull Soc Franc Derm Syph 69*:594 1962.

41. Samman, P. D., and Beer, W. E.: The treatment of psoriasis with fluocinolone ointment (Letter to Editor) *Brit J Derm 74*:281 (July) 1962.

50. Williams, P. L.: Palliative treatment for knuckle pads, *The Schoch Letter* (Oct) 1962.

51. Bender, E.; Zierz, P., and Rasp, K. F.: Clinical experiences with fluocinolone in local treatment of common psoriasis, *Die Med Welt 47*:2508 (Nov 24) 1962.

52. Boslet, W.: Therapeutic experiences with fluocinolone acetonide in combination with occlusive dressings for long periods of time, *Arneim Forsch 12*:1109 (Nov) 1962.

53. Hall-Smith, S. P.: "Polythene" coverings in dermatological treatment, *Brit Med J 2*:1233 (Nov 10) 1962.

54. McKenzie, A. W.: Percutaneous absorption of steroids, *Arch Derm 86*:611 (Nov) 1962.

55. McKenzie, A. W., and Stoughton, R. B.: Methods of comparing percutaneous absorption of steroids, *Arch Derm 86*:608 (Nov) 1962.

56. Scholtz, J. R.: Progress report on corticosteroid topical therapy by the surface depot method, *The Schoch Letter* (Nov) 1962.

57. Nonami, E., *et al*: Clinical result of Flucort cream, *Weekly Med Times* No 718 (Dec 12) 1962.

58. Robinson, H. M., Jr.: Evaluation of recent anti-inflammatory and anti-pruritic agents, *The Schoch Letter* (Dec) 1962.

59. Samitz, M. H.: Clinical evaluation of topical fluocinolone acetonide cream, *Curr Ther Res 4*:589 (Dec) 1962.

60. Yoshida, Y., *et al*: Effect of Flucort cream on skin diseases, Presented at the Northeast Regional Meeting of the Japanese Association of Derm (Sendai) (Dec) 1962.

61. Bjornberg, A., and Hellgren, L.: Topical treatment with fluocinolone acetonide, *Acta Dermatovener 42*:426 1962.

62. Funabashi, T., and Ikeda, S.: Clinical result of Flucort cream in dermatological field, *J New Remedies & Clinic 11*:17 1962.

63. Harada, G., *et al*: Effect of Flucort cream on inflammatory dermatoses, *J New Remedies & Clinic 2*:3 1962.

64. Hato, T., *et al*: Experiences with Flucort cream in treatment of dermatoses, *J New Remedies & Clinic 11*:570 1962.

65. Kitamura, K., *et al*: Therapeutic experience of some dermatoses with Flucort cream, *J New Remedies & Clinic 11*:700 1962.

66. Nakama, T.: Experience with Flucort cream, a new powerful corticosteroid, *Derm Urol* (Fukuoka) *24*:466 1962.

67. Robinson, H. M., Jr.; Raskin, J.; and Dunseath, W. J. R.: Surface depot steroid therapy, Scientific Exhibit, 57th Congress Southern Med Association 1962.

78. Aceves Ortega, R.: Fluocinolone acetonide with an occlusive dressing in the topical therapy of varied dermatoses, *Medicina* (Mex) 43 (Feb 10) 1963.

79. Bandmann, H. J.: The treatment of neurodermatitis constitutionalis with Jellin, *Hautarzt 14*:82 (Feb) 1963.

80. Gill, K. A., Jr., and Baxter, D. L.: Alopecia totalis: treatment with fluocinolone acetonide, *Arch Derm 87*:384 (Mar) 1963.

81. Meenan, F. O.: The treatment of infantile eczema with fluocinolone acetonide cream, *J Irish Med Assn 52*:75 (Mar) 1963.

82. Riboldi, A.: Fluocinolone acetonide in the practice of dermatology, *Arch Ital Derm 104*:180 (Mar-Apr) 1963.

83. Donskoff, J.: Clinical experimentation with Synalar Cream, particularly under occlusive dressing in a series of resistant dermatoses, *L'Inform Therap 4*:9 (Apr) 1963.

84. Samitz, M. H., and Weinberg, R. A.: Benign familial chronic pemphigus - treatment with topical fluocinolone acetonide cream, *Skin 2*:34 (Apr) 1963.

85. Kanee, B.: Clinical studies with topical fluocinolone acetonide in various dermatoses, *Canad Med Assn J 88*:999 (May 18) 1963.

86. Buck, H. W., and Mitchell, J. C.: Eccrine function during therapy of psoriasis, *Arch Derm 87*:696 (June) 1963.

87. Freedman, R.; Hirsch, P.; and Becker, S. W.: Treatment of two cases of itching purpura, *Arch Derm 87*:740 (June) 1963.

88. Freedman, R.; Reed, W.; and Becker, S. W.: Effect of local corticosteroids on psoriasis, *Arch Derm 87*:701 (June) 1963.

89. Stevenson, C. M., and Wittingham, G. E.: Psoriasis treated with topical fluocinolone acetonide and occlusive dressing, *Brit Med J 5343*:1450 (June 1) 1963.

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90. Reynoso, Villasenor, I.: Results obtained with 6 fluorinated corticoids in different dermatoses, *Medicina* (Mex) *43*:917 (June 10) 1963.

91. Porto, J. A.: Psoriasis: topical treatment with fluocinolone acetonide, *Hospital* (Rio) *64*:95 (July) 1963.

92. Robinson, H. M., Jr.; Raskin, J.; and Dunseath, W. J. R.: Treatment of chronic cutaneous lesions by occlusive dressings, *Southern Med J 56*:797 (July) 1963.

cream in the healing of
sions, *Vie Med 44*:155 19

100. Vickers, C. F. H.: E
stratum corneum, *Arch De*

101. Arno, I. C.; Wapner,
E.: The topical use of fl
for relief of vulvar and
Albert Einstein Med J.

102. Bjornberg, A., and H
acetonide - a new steroid
in press: *Acta Dermatover*

103. Bjornberg, A., and H
chronic discoid lupus eryth
acetonide, in press: *Brit J*

104. Garcia Munoz, M.:
dermatologic therapy, Sy
press: *Medicamenta.*

105. Hartman, W.: Prac
topical corticosteroid (Fl
press: *The Gegenw.*

106. Illig, L.: Alteration
riasis vulgaris, in press: D

107. Izaki, M. *et al*: Tre
ditions, particularly contac
acetonide cream, in press:

108. Kalkoff, K. W., and
examinations on the regre
under local fluocinolone t
Med Forsch.

109. Nakamura, K.: Ex
some skin diseases with flu
in press: *Derm Urol* (Fuk

110. Namito, T., *et al*:
cream in treatment of derm
kaido Med Assn Meeting
Remedies & Clinic.

111. Odagiri, H.: Experi
acetonide ointment, in pres

112. Scholtz, J.: Note o
acetonide) solution, in pre

113. Sonoda, S., and Fuk
eczematous dermatitis wi
hydrophilic ointment, in p

114. Sugahara, M., and H.
Flucort cream, in press:

115. Toshitani, A.: Trea
Flucort cream, in press:

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> Robinson, H. M., Jr.; Raskin, J.; and Dunseath, W. J. R.: Topical Therapy with Fluocinolone Acetonide, *Bull Sch Med Univ Maryland 47*:21 (Apr) 1962

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Internal Pacemaker Successful In 9 of 12 Heart Patients

A totally implantable electrical pacemaker capable of maintaining the heart's beat has been used successfully by 9 out of 12 patients, a research team reported.

Previous pacemakers have utilized wire leads running from the heart through the chest wall to an outside source of electrical power.

Use of the indwelling device at Washington University School of Medicine, St. Louis, was described in the November 23 *Journal of the American Medical Association* by Drs. Brent M. Parker, Lee C. Shine, now of Lexington, Ky., Thomas H. Burford, and Kirkley R. Williams, now of Philadelphia.

The internal device, devised by Paul M. Zoll, Boston, and William M. Chardack, Buffalo, N.Y., consists of a small transistorized power source buried in tissue under the skin of the abdomen with connecting wires led through a tunnel in tissue under the skin to the heart muscle. The unit stimulates the heart at a steady rate which can be preset at 54 to 70 beats per minute.

The pacemakers are used for heart block, a condition in which the heart is so damaged by disease that the heart beats irregularly. This can lead to fainting spells and weakness (called Adams-Stokes attacks), or heart standstill and death.

These devices "have demonstrated their reliability over a period of many months and in our hands have functioned in an eminently satisfactory manner," the authors said.

The nine survivors are "greatly improved and have been free of attacks," they said. One of the three deaths resulted from unrelated causes, they said.

The longest survival among these patients has been 25 months, the researchers said. Although some complications occurred, they said, in general the postoperative course was smooth and the patients have had little pain or tissue reaction to the implanted wires.

Study of Cancer in Twins Limits Genetic Effect

A study of cancer among identical and fraternal twins indicates that the genetic factor in the cause of this disease must be limited, it was reported in the November 23 *Journal of the American Medical Association.*

The two types of twins were used as the basis for comparison because identical twins develop from the same egg and inherit the same genes while fraternal twins, developing from separate eggs, are no more alike in their genetic makeup than other children with the same parents.

Drs. Bent Harvald and Mogens Hauge, Institute

Recent reports suggest...insulin and sulfonylureas may accelerate lipogenesis,[1-5]...serum "insulin" levels are often elevated in obese diabetics[2,3,6]...DBI (phenformin HCl) reduces high blood sugars, lowers elevated "insulin" levels, tends to reduce body weight toward normal.[1,3,7-9]

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In the ketoacidosis-resistant obese diabetic not amenable to diet alone, hypoglycemic DBI (phenformin HCl) appears to help avoid weight gain or reduce adiposity, factors which otherwise tend to make blood sugar control more difficult and to increase the likelihood of complications. However, in the ketoacidosis-prone diabetic, insulin is still the essential hypoglycemic agent.

Summary: Indicated in stable adult diabetes, sulfonylurea failures and unstable diabetes. Gastrointestinal side effects occurring more often at higher dosage levels abate promptly upon dosage reduction or temporary withdrawal. Occasionally an insulin-dependent patient will show "starvation" ketosis (acetonuria without hyperglycemia) which must be differentiated from "insulin-lack" ketosis, and treated accordingly. Use with caution in severe liver disease. Not recommended without insulin in acute complications (acidosis, coma, infections, gangrene, surgery). Consult product brochure for full information.

Bibliography: 1. Williams, R. H.: Textbook of Endocrinology, Ed. 3, Saunders, Philadelphia, 1962, p. 610. 2. Gordon, E. S.: Metabolism 11:819, 1962. 3. Grodsky, G. M. et al.: Metabolism 12:278, 1963. 4. Sadow, H. S.: Metabolism 12:333, 1963. 5. West, K. M. and Tophoj, E.: Metabolism 10:689, 1961. 6. Yalow, R. S. and Berson, S. A.: Diabetes 9:254, 1960. 7. Weller, C. et al.: Scientific Exhibit, A.M.A., June 1962. 8. Weller, C. et al.: Metabolism 11:1134, 1962. 9. Radding, R. S. et al.: Metabolism 11:404, 1962.

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of Human Genetics, University of Copenhagen, Denmark, established contact with 6,893 sets of twins born in Denmark between 1870 and 1910 and from this group compared 1,528 sets of identical twins with 2,609 fraternal twins.

Figures compiled on 164 identical sets of twins in which cancer was involved showed that in 143 sets only 1 of the partners had cancer, while 8 twins had partners with cancer of the same site and 13 had partners with cancer of a different site, the researchers reported. Among 340 fraternal sets of the same sex in which cancer was involved, it was found that in 292 sets only 1 of the partenrs had cancer while 9 twins had partners with cancer of the same site and 39 had partners with cancer of a different site, they said.

The similarity of the figures on cancer in general between the two groups of twins "implies that the diversity in the population with regard to the development of cancer in general is not to any significant extent determined by genes," the researchers concluded.

The finding that 8 of 164 identical sets and 9 of 340 fraternal sets had cancer of the same site justifies the conclusion that "the genetic influence, also with respect to tumor localization, is negligible compared to the effect of other factors constituting the etiology of malignant growths, even if larger materials would show a statistically significance," they said.

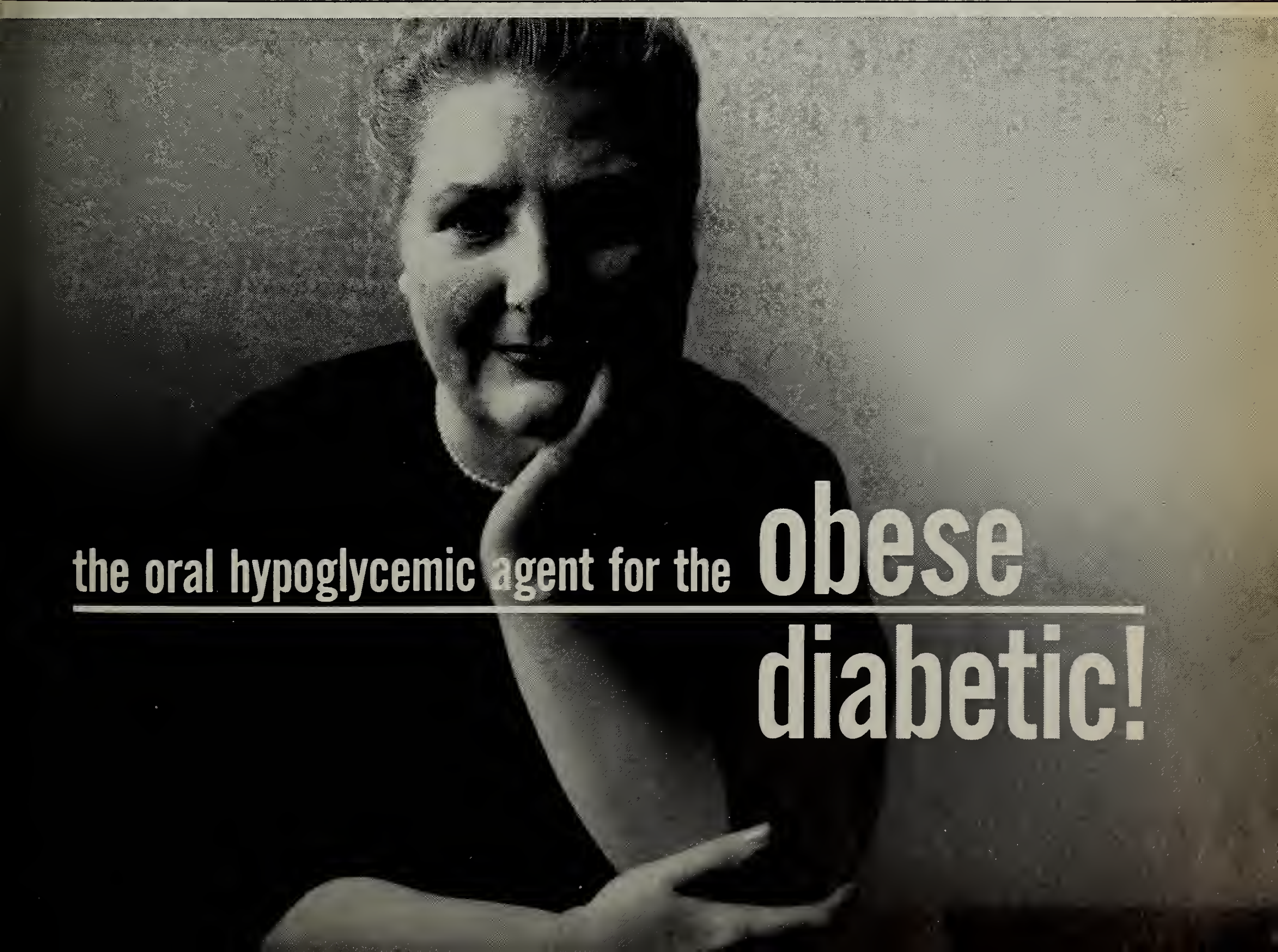
The cancer death rate in the twin population also was compared with that of the general Danish population between 1921 and 1961. It was noted, in view of modern improvements in cancer diagnosis, that more than 75 per cent of the twin cancer deaths occurred after 1940.

The relative cancer mortality did not differ significantly between the twin group and the general population, the researchers reported.

An accumulation of cancer cases in family groups has been reported for different types of malignancies, such as cancer of the stomach, breast, and uterine body, the authors commented. However, they said, it cannot be determied by family studies alone whether this concentration is genetically determined or due to a greater than average similarity of environment in closely related persons.

The authors also pointed out that it is logical to assume that genes determine at least some of the characteristics of living tissues which allow malignant growth. If such genes are universally or almost universally distributed in the population, they said, no difference in this factor could be uncovered by means of the "twin method."

Furthermore, they said, the action of "genetic factors" such as the possibility that infectious desoxyribose nucleic acid (DNA) of viral or cellular origin attacks the body's cells cannot be explained by the twin approach. DNA is the carrier of inherited characteristics in living things.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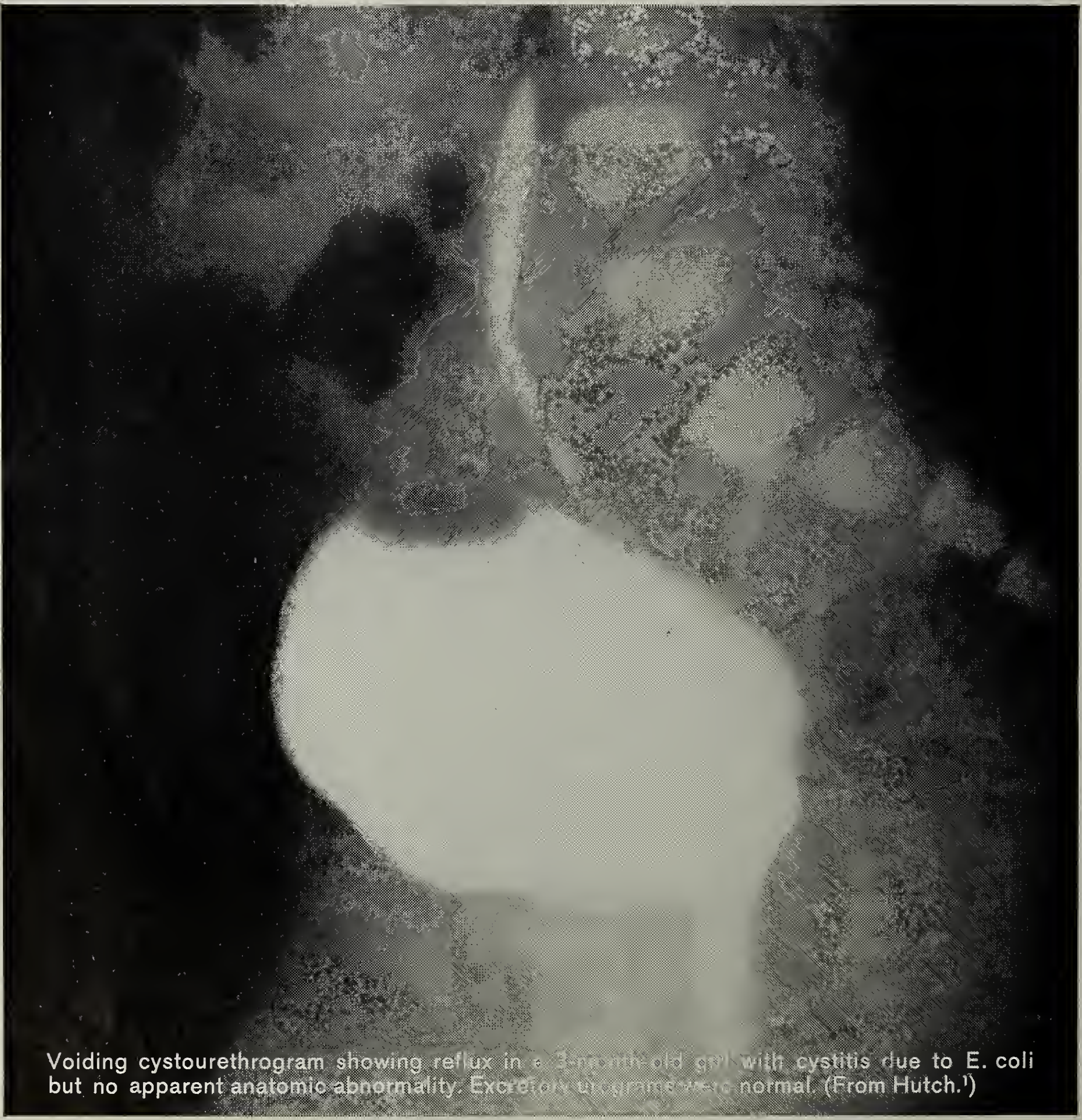
cystitis in childhood: "a two-fold threat"[1]

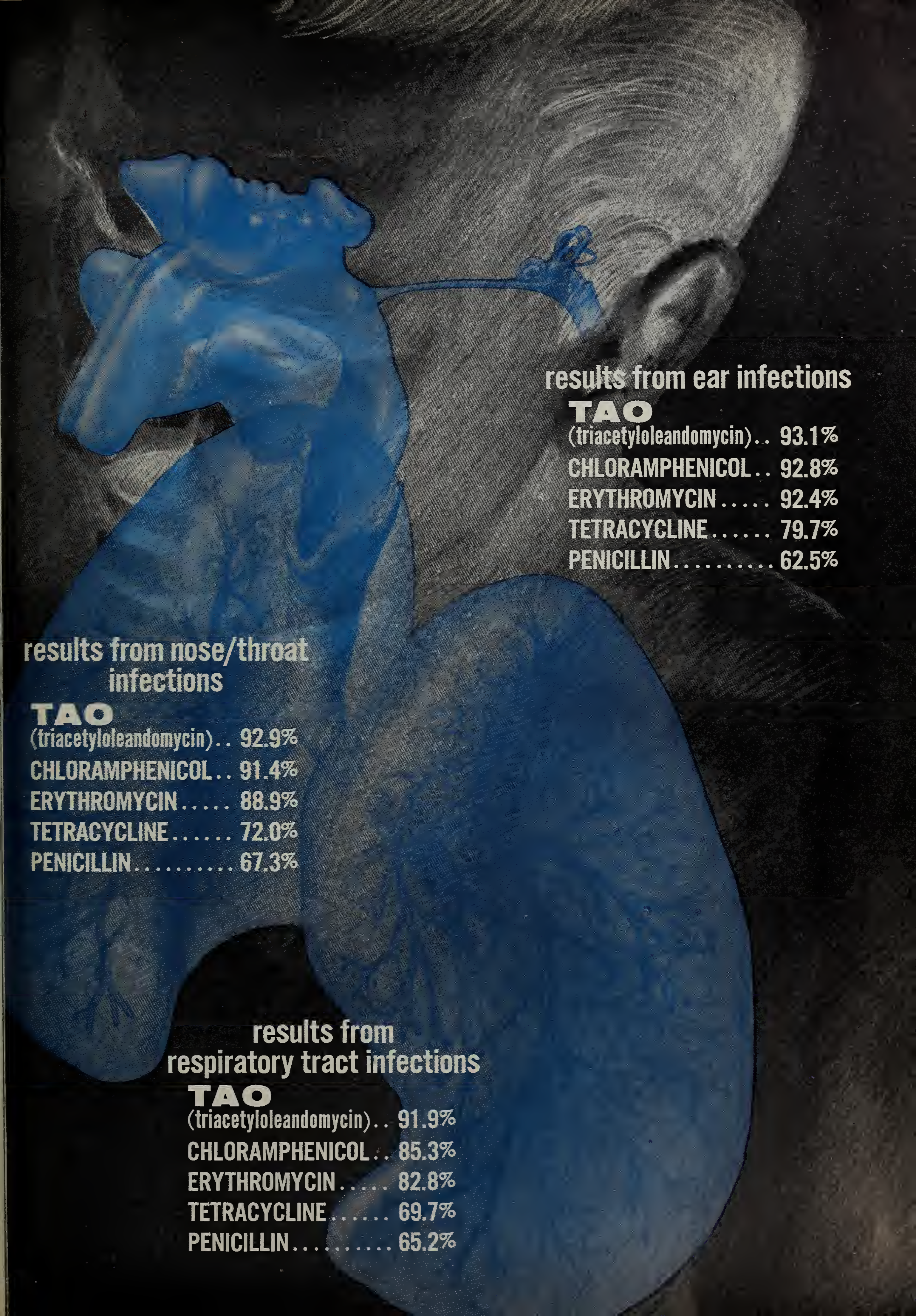
Because of the shortness and immaturity of their ureterovesical valve mechanism, children are particularly vulnerable to reflux.

"Cystitis in children is a two-fold threat: 1) It produces the vesical edema required to convert a marginally competent intravesical ureter into an incompetent one. 2) It produces the infected urine necessary to make the reflux dangerous to the kidneys. Unfortunately the tendency to reflux is greatest at the worst possible time, i.e. when the bladder urine is infected."[1]

Reflux "can be demonstrated in about 50 per cent of all children with recurring urinary tract infections."[1]



Voiding cystourethrogram showing reflux in a 3-month-old girl with cystitis due to E. coli but no apparent anatomic abnormality. Excretory urograms were normal. (From Hutch.[1])



results from ear infections

TAO (triacetyloleandomycin)	93.1%
CHLORAMPHENICOL	92.8%
ERYTHROMYCIN	92.4%
TETRACYCLINE	79.7%
PENICILLIN	62.5%

results from nose/throat infections

TAO (triacetyloleandomycin)	92.9%
CHLORAMPHENICOL	91.4%
ERYTHROMYCIN	88.9%
TETRACYCLINE	72.0%
PENICILLIN	67.3%

results from respiratory tract infections

TAO (triacetyloleandomycin)	91.9%
CHLORAMPHENICOL	85.3%
ERYTHROMYCIN	82.8%
TETRACYCLINE	69.7%
PENICILLIN	65.2%

Effect of Cold and Hunger Discussed in *J.A.M.A.*

For a starving person, cold weather is an additional hindrance to survival, Philip L. White, Sc.D., secretary of the Council on Foods and Nutrition, American Medical Association, writes in the October 19 *Journal of the American Medical Association.*

"A significant deviation from a comfortable environmental temperature and humidity places additional burdens on the starving individual," he said in the *Journal's* question and answer section.

"The amount of energy required to warm the body depends upon the temperature differential. The greater the differential, the greater is the caloric demand for warming the body."

Studies show that the rate of metabolism increases in men exposed to cold weather, Dr. White said.

However, he said, energy expenditures decrease somewhat as starvation progresses due to a reduction in metabolizing tissue mass, a gradual change in body composition and decreased physical activity.

"Nevertheless, exposure to cold weather produces a continuing depletion of energy in the form of fat and lean body mass," he said.

Referring to the survival of a man and woman for nearly two months after a light plane crash in Alaska, Dr. White said the injuries suffered by both survivors was another physical burden.

"Except for the ready availability of snow as a source of water, the occupants of the crashed plane could not have chosen a less likely environment for survival," he concluded. "It is indeed miraculous that both survived in relatively good shape."

Carbon Monoxide Inhalation Affects Mind Before Body

Inhalation of carbon monoxide at levels which produce no physical effects can cause impairment of some mental skills, a study showed.

The study produced "strong indications" that physiologically safe levels of this gas can nevertheless produce impairment of psychological skills which may be a safety hazard for the worker (rather than a health hazard) and may also greatly reduce efficiency and productivity, Cdr. John H. Schulte, MC, USN, Washington, D.C., reported in a scientific journal of the American Medical Association.

Astronauts, airplane pilots, train engineers, and many others who must make accurate judgments, correct decisions, and rapid responses in the performance of their duties are exposed to low levels of carbon monoxide in their working environment, Dr. Schulte pointed out. Further studies of the effects of this gas on decision making, intelligence and learning are "definitely indicated," he said.

Dr. Schulte studied the performance of 49 healthy men given relatively simple psychological and physiological tests while exposed to various "safe" levels

(Continued on Page 29)

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Carbon Monoxide Inhalation Affects Mind Before Body

(Continued from Page 22)

of the gas. The volunteers were Cincinnati firemen between the ages of 25 and 55.

The volunteers wore special oxygen masks and were not aware of the presence or degree of the odorless, tasteless gas they were inhaling, he said. The psychological tests included arithmetic, underlining plural nouns, and *t* crossing, he said.

The effect of the gas on the subject was measured by a carboxyhemoglobin determination, i.e., the extent to which carbon monoxide combines with hemoglobin, the oxygen-carrying protein in red blood cells. It is the affinity of the gas for hemoglobin which interferes with the oxygen-carrying ability of the blood and leads to death from oxygen deprivation when toxic amounts of carbon monoxide are inhaled.

Concentrations of carboxyhemoglobin among the volunteers ranged up to 20 per cent, Dr. Schulte said. This was produced by 100 parts per million of carbon monoxide, the recommended maximum allowable concentration for an eight-hour-a-day exposure, he said.

"The results show that there was no correlation between the level of carboxyhemoglobin in the blood and any of the physiological activities which were evaluated," Dr. Schulte said. However, he said, there was a definite, appreciable, and statistically significant relationship between the carboxyhemoglobin level and all psychological activities except plural noun underlining.

With the exception of this test, he said, the psychological tests also were highly sensitive to the presence of carbon monoxide in the blood as shown by a progressive increase in the number of errors and in completion time with increasing levels of carboxyhemoglobin. This increase began even before the five per cent carboxyhemoglobin level was reached, he said.

Alterations in psychological functions, therefore, can and do occur at much lower levels of carboxyhemoglobin than those necessary to produce symptoms noticeable by the individual or to alter physiological measurements, he said. Furthermore, he said, degree of psychic change may be "quite profound" before any physical changes. There was a tenfold increase in errors on one test when the carboxyhemoglobin level reached 20 per cent, he said.

Since relatively simple thinking abilities are impaired by low levels of carboxyhemoglobin, he said, "it is highly possible that more complex psychological functions involving judgments, and situational decisions and responses, would be greatly affected by exposure to levels of carbon monoxide sufficient to produce concentrations of carboxyhemoglobin in the blood between 5 and 20 per cent."

The report was published in the November AMA *Archives of Environmental Health.*

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AMA Issues Optimistic Report On Medical Education

The American Medical Association recently reported significant advances in three areas of medical education vital to the future quality of medical service in this country.

The 1962-63 annual report on medical education, prepared by the AMA Council on Medical Education and Hospitals, cited the following developments:

— Firm commitments for the construction of six new medical schools, bringing to 11 the total number now in the planning stage.

— A 10 per cent increase in the number of medical school applicants, the first upturn in six years.

— Evidence of an enlarging pool of potential medical teachers.

A major concern of recent years has been the adequacy of the future supply of physicians for a growing population with increasing expectation for medical service, the council said. An increase in the future supply of physicians is a well-documented necessity and this depends primarily on expansion of facilities and an increase in medical teachers and students, it said.

"Though it is too early for certainty, still, on the basis of current progress, cautious optimism can be expressed in regard to satisfying future needs," the council said.

Despite the generally optimistic report, the council said efforts to interest more students in a medical career, which have been intensified in recent years, should not be relaxed. Medicine will continue to compete with an increased number of other "status professions" for top students, it said.

The public announcement of six new medical schools was made by the University of Arizona, Tucson; Mt. Sinai Hospital, New York City; University of Massachusetts, Amherst; University of California, San Diego; Michigan State University, East Lansing, and Pennsylvania State University, University Park, the AMA report said.

Of the five new schools previously announced, New Mexico plans to enroll its first medical students for the 1964-65 academic year; Rutgers plans to accept an entering class for 1965-66, and the University of Texas, San Antonio, for 1966-67. Brown has accepted for 1963-64 its first college class which will in part constitute its first medical students in the next few years, and the University of Connecticut is in the process of developing its architectural and academic plans.

There are many other institutions which are giving serious study to the establishment of medical schools, the report said, and a growing emphasis on construction of teaching facilities is anticipated as a result of the Health Professions Educational Assistance Act passed by Congress this year.

(Continued on Page 37)

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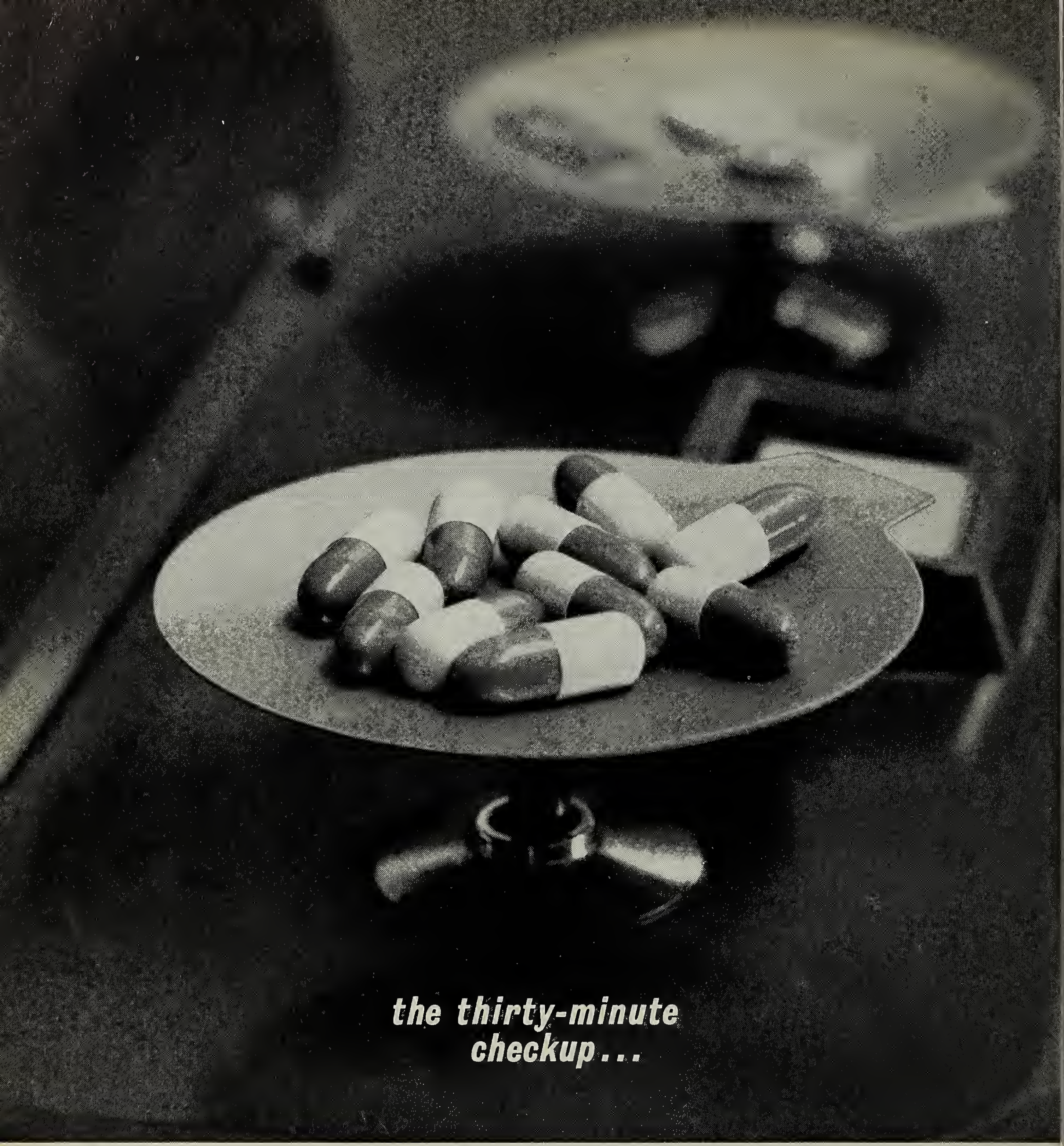

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Diabetes Mellitus

A Review of Some Recent Investigations into the Nature Of the Clinical Syndrome

G. M. REAVEN,* *M.D.* and L. B. SALANS,† *M.D.*, Palo Alto

THE CONCEPT that diabetes mellitus results from insulin deficiency is based upon the observation that in dogs removal of the pancreas was followed by hyperglycemia, glycosuria, ketosis and death,[63] and that the administration of insulin, in the form of pancreatic extract, could prevent these sequelae.[7] In the 41 years that have elapsed since the original communication of Banting and Best rapid advances have been made in both the clinical and the biochemical aspects of diabetes, and diabetic ketoacidosis has been virtually eliminated as a cause of death.

On the other hand, although the average life span of a patient subsequent to the diagnosis of diabetes has increased from six to 18 years since the advent of insulin,[38] the degenerative changes historically associated with diabetes have not been prevented. It has been estimated that these lesions account for approximately 80 per cent of deaths among patients with diabetes as compared with 30 per cent in the general population.[11] Considerable heat and energy have been dissipated over the controversy of whether or not careful control of hyperglycemia can affect the development of the "vascular complications" of diabetes, and these issues still remain unsettled. However, there would appear to be little question that premature atherosclerosis, nephropathy, neuropathy and retinopathy still occur quite frequently in patients with diabetes.

In most recent years clinical investigation of diabetes mellitus has tended to become focused more and more on the two following questions:

1. Is diabetes a simple deficiency disease, characterized by the absence of sufficient insulin to maintain glucose homeostasis, in which generalized angiopathy may develop as a result of the abnormal carbohydrate metabolism?
2. Can diabetes be diagnosed before the development of clinical manifestations of abnormal carbohydrate metabolism, and if so, can anything be done to forestall its clinical progression?

In the following review, we will attempt to summarize and evaluate some recent investigations that bear on these two questions. An attempt will be made to be selective, and the subject matter to be presented will depend to a considerable extent on the areas of investigation that hold the most interest for us. Several excellent books have recently appeared which provide comprehensive reviews of all aspects of diabetes.[25,70]

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*Assistant Professor of Medicine.

†USPHS Research Fellow in Metabolism.

Department of Medicine, Stanford University School of Medicine, Palo Alto.

Submitted November 22, 1963.

Insulin and Hyperglycemia

In the latter half of the 19th century, Naunyn clearly pointed out the differences between the two clinical forms of diabetes mellitus which are now referred to as juvenile and maturity onset diabetes.[46] This clinical definition has proved to be extremely valuable, and its usefulness persists to the present. Clinically, the juvenile form of diabetes is least common; usually occurs in youth or late childhood; has an explosive onset with polyuria, polydypsia and loss of weight; and, in the absence of insulin, death from ketoacidosis is inevitable. Blood glucose homeostasis in this form of the disease is usually precarious, even while the patient is taking insulin, and the juvenile diabetic is characterized by being both insulin-sensitive and prone to ketosis.

In contrast, the maturity onset form of diabetes is more common, and reaches a peak incidence later in life. The disease appears to be milder and more stable, and the majority of patients are overweight, are insulin-resistant, and do not develop ketosis except under extreme stress.

The general tendency has been to relate these clinically dissimilar variants to the ability of the pancreas to secrete insulin.[17,40,58] In this view, diabetes seems to be considered as a specific point on an infinite spectrum of degrees of carbohydrate intolerance, in which the extent of the intolerance is directly related to the supply of endogenous insulin. At one end of the spectrum is the normal person with adequate insulin, while at the other end is the juvenile diabetic who is completely devoid of insulin. Somewhere between these two points lies the patient with maturity onset diabetes, who has sufficient insulin to avoid ketosis but not enough to maintain normal carbohydrate tolerance.

This particular formulation of the relationship between diabetes mellitus and supply of endogenous insulin has many things in its favor. In the first place, it provides a unitarian concept of the nature of diabetes and is consistent with the observation that the two clinical forms of diabetes frequently exist in the same family. Furthermore, there is ample evidence that insulin deficiency can produce most if not all findings associated with diabetes. Hyperglycemia, glycosuria and ketosis follow the removal or destruction of the pancreas in experimental animals,[1,63,42] and the same syndrome can result following administration of anti-insulin serum to a variety of animals.[5,72] Destruction of pancreatic function in man can produce hyperglycemia,[8,9,34,45,54] and the blood glucose concentration can be lowered by the administration of insulin. Withholding of insulin from the juvenile diabetic will certainly result in uncontrolled hyperglycemia, and decreased amounts of insulin have been found in the pancreas of some patients with diabetes.[35,71] Consequently, it seems quite clear that the complete absence of insulin will result in hyperglycemia. On the other hand, there is no convincing evidence that the presence of hyperglycemia is necessarily synonymous with insulin deficiency. Indeed, recent measurements of the content of insulin in the plasma would indicate that insulin deficiency may not be present in all patients with diabetes, and that abnormally high levels may exist in patients with maturity onset diabetes.* Before discussing these observations in detail, a few introductory remarks concerning techniques of measuring plasma insulin seem appropriate.

There are three widely used methods of insulin assay. In one of them the amount of insulin is measured chemically, and in the other two insulin-like activity (ILA) is measured biologically. The chemical methods for measuring insulin are based on immunochemical principles, in which plasma insulin concentration is determined on the basis of its ability to compete with I^{131}-labeled insulin for specific anti-insulin antibody.[32,73] The actual amount of insulin present in the plasma is then estimated by comparing its activity in this situation with standard insulin solutions. The advantage of the immunochemical assay lies in its specificity, and it is the one method that actually measures insulin. The disadvantage of the immunochemical assay also lies in its specificity, in that it provides a measurement of immunologically active, rather than biologically active insulin.

The biological method which has been used most extensively to estimate circulating insulin involves the isolated rat diaphragm.[33,48,59] The method is based upon the observation that small amounts of insulin promote glucose uptake by the diaphragm, and that the degree of uptake has a certain linear relationship to the amount of insulin present. The other method which is currently being used for the bioassay of insulin follows similar principles, except that in this case the test system consists of the conversion of radioactive glucose to carbon dioxide by the rat epididymal fat pad.[44,53] In either case, insulin-like activity (ILA) is measured in these bioassays, and it follows that this includes more than insulin alone.

Although the methods of estimating plasma insulin vary, the results reported in patients with diabetes are remarkably similar. The majority of observers, using either the immunochemical, the diaphragm assay or the fat pad assay have found that circulating insulin or ILA is decreased in patients with juvenile diabetes.[20,50,59,73] Although normal or even elevated levels have been found early in the course of juvenile diabetes by some investigators (primarily with the fat pad assay),[56,57] present methods of assaying insulin activity indicate that juvenile diabetes is associated with insulin deficiency. In contrast, insulin deficiency does not seem to be characteristic in patients with maturity onset diabetes.[12,13,20,50,55,73] In these patients, the various assay methods yield somewhat different data concerning insulin levels. In general, the immunochemical and fat pad assays seem to provide qualitatively similar results, namely that the patient with maturity onset diabetes responds to a glucose load with a somewhat delayed rise in plasma insulin, but insulin concentration may eventually exceed that seen in normal persons. The rat diaphragm method, depending upon the investigator and the modification used, has indicated that the patient with maturity onset diabetes may respond to a glucose load with either a normal or a decreased rise in plasma insulin-like activity.[2,59]

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*Reference Nos. 12, 13, 20, 50, 55, 57, 59, 73.

THE role of insulin deficiency in the development of diabetes is further complicated by recent investigations which seem to indicate that insulin may differ qualitatively as well as quantitatively. Antoniades[2,3] recently suggested that insulin may exist in the plasma in two forms: "free" and "complexed." The two forms of insulin are separated on the basis of their behavior in a specific test system. "Free" insulin-like activity is determined by measuring the ability of untreated plasma to increase glucose uptake by an isolated rat diaphragm. "Complexed" insulin is that fraction of total ILA which can act to increase glucose uptake only after incubation of the plasma with an adipose tissue extract. Using these techniques, Antoniades observed that levels of both "free" and "complexed" ILA are low in the fasting state, with the major part of the ILA being present in the "complexed" form. Normal subjects respond to a glucose load with a brisk outpouring of "free" insulin into the peripheral blood. In patients with maturity onset diabetes, this rise in "free" insulin does not occur, but only a slow rise in the "complexed" form. Antoniades extended these observations by taking specimens of blood from the portal venous system as well, and the results indicated that normal individuals and maturity onset diabetics appear to secrete similarly increased amounts of "free" insulin from the pancreas in response to a glucose load. Consequently, the defect in the patient with maturity onset diabetes would seem to be extra-pancreatic, and may result from an inability to provide access of "free" insulin to the peripheral tissues.

Samaan and coworkers[50,51] defined two other fractions of ILA, designated as "typical" and "atypical," which they believe are not the same as the "free" and "complexed" forms of Antoniades. The rat fat pad serves as the test system to estimate total plasma ILA. "Typical" insulin is that fraction of total ILA which can be neutralized by previous incubation with guinea pig anti-insulin serum, and this fraction can be estimated by the rat diaphragm test and the immunochemical assay as well. "Atypical" insulin is that portion of total ILA which cannot be neutralized by guinea pig anti-insulin serum, and only displays activity in the fat pad assay. Some of the conflicting results that have been noted to occur between the three major assay systems are attributed by these investigators to this fraction of total ILA. Their data suggest that "atypical" insulin, in contrast to the "typical form," has only a modest effect in preventing hyperglycemia, glycosuria and ketosis in animals. They indicated that normal patients responded to a glucose load by a prompt release of "typical" insulin, and returned to the low levels seen with fasting in approximately two hours. There was no appreciable change in "atypical" insulin. Patients with maturity onset diabetes appeared to have both a slight fasting elevation of "atypical" insulin, and an apparent prolongation in the rise in the plasma content of "typical" insulin that followed glucose administration. Patients with juvenile diabetes were shown to have low levels of both "typical" and "atypical" insulin, which did not increase after a glucose load.

The observation that hyperglycemia seems to occur in patients with maturity onset diabetes in spite of increased levels of plasma insulin, could be related to the presence of insulin antagonists in the blood of patients with diabetes.[60,61,62] The serum of untreated, insulin-requiring diabetics inhibits the action of exogenously added insulin on the rat diaphragm. This antagonistic activity resides in the albumin fraction of plasma, but is not albumin. Serum from normal subjects or from persons with maturity onset diabetes does not exhibit this phenomenon, but fractionation of the serum reveals antagonistic activity of a lesser degree, which is again located in the albumin fraction. When this albumin fraction is diluted, the antagonistic activity of maturity onset diabetics is greater than that of normal subjects. It is of note that none of these effects can be seen if epididymal fat pad is used instead of diaphragm as the system for estimating ILA. These investigators suggested that the antagonistic activity produces a decrease in plasma insulin-like activity despite apparent elevations of plasma insulin. They have more recently indicated that this antagonism may reside within the B chain of the insulin molecule.[27]

Summary: Although various attempts to measure plasma insulin have provided considerable information concerning the relationship between circulating insulin and diabetes mellitus, it must be added that the variable results reported have also tended to confuse. It is apparent that as long as each investigator uses primarily his own modification of one specific technique it will be extremely difficult to fully assess the significance of these findings. On the other hand, these are important observations, and it seems appropriate that some attempt be made to evaluate them.

There seems to be general agreement that an absolute deficiency of insulin exists in patients with juvenile diabetes, and that hyperglycemia in this situation is related, at least in part, to a lack of endogenous insulin. The chief difficulty in attributing hyperglycemia to lack of insulin in general, results from investigations of patients with maturity onset diabetes. It is difficult to believe that hyperglycemia in this situation results from failure of insulin secretion, when essentially all patients studied are capable of secreting large amounts of insulin.

Attempts have been made to retain the concept that all diabetes is related to insulin deficiency by suggesting that maturity onset diabetics secrete abnormal insulin, and hence are relatively insulin deficient. It is difficult to confirm or deny this possibility, but it would appear that the circulating insulin is normal as measured by the immunochemical and both bioassays. Although the definitive answer is not available, it seems necessary to postulate that at least some portion of the hyperglycemia of maturity onset diabetes is related to altered tissue responsiveness to insulin. Whether or not this is due to an intrinsic defect in certain tissues (perhaps muscle), to insulin antagonists, to abnormal binding of insulin, or to some other unknown factor awaits further investigation. Finally, the differences noted in plasma insulin between juvenile and maturity onset diabetes raises question as to whether or not these two clinically dissimilar syndromes are indeed manifestations of different disease processes.

Insulin and the Chronic Diabetic Syndrome

Insulin deficiency results in hyperglycemia, glycosuria, ketosis and acidosis. These biochemical results of insulin lack, as well as their clinical counterparts of polyuria, polydypsia and weight loss, are clearly related to abnormal carbohydrate metabolism. The advent of insulin provided excellent control of these manifestations of what might be defined as the acute diabetic syndrome. However, the period of time that has elapsed since the introduction of insulin has been marked by a steady increase in degenerative lesions of what might be classified as the chronic diabetic syndrome.[10,14,68] Consequently, the vast majority of patients with diabetes will sooner or later have one or more of the frequently serious and life threatening clinical conditions commonly referred to as "the complications of diabetes."

Explanation for this apparent increased incidence of diabetic retinopathy, nephropathy, neuropathy and generalized atherosclerosis is not clear. If these so-called complications of diabetes were related to simple insulin deficiency and/or hyperglycemia, it would seem reasonable that the introduction of insulin would have prevented their development. The fact that they have persisted in the face of the availability of insulin has led to the alternative concept that these changes cannot be considered as complications of diabetes, but represent a generalized angiopathy which is as characteristic of diabetes as is hyperglycemia. Neither of these viewpoints seems consistent with all the information that is available. Although this puzzle cannot be solved at the present time, it would seem worthwhile to review some of the pertinent information that bears on it.

There appear to be two basic drawbacks to the thesis that the generalized angiopathy of the chronic diabetic syndrome results from either insulin deficiency or hyperglycemia alone. In the first place, insulin has not prevented the appearance of these "complications." This could either be because the emergence of these lesions has nothing to do with carbohydrate metabolism, or because the use of insulin has not satisfactorily controlled the abnormal carbohydrate metabolism. If the latter explanation were true, it should be possible to relate the development of the chronic diabetic syndrome to the degree of diabetic control. This line of reasoning has led to considerable investigation of the question of whether or not careful control of hyperglycemia can affect the non-carbohydrate manifestations of the diabetic syndrome.* This question remains unresolved, and it is not the purpose of this communication to critically evaluate the great number of efforts that have been made to confirm or deny this possibility. However, several generalizations seem justified at this point. Although "good control" may minimize the severity of diabetic retinopathy or nephropathy, for instance, it does not seem to prevent their development. Furthermore, the incidence of such lesions seems to bear a reasonable relationship to the duration of diabetes; for example, White and Waskow[67] reported a 92 per cent incidence of vascular lesions in patients who had had diabetes for 20 years or more.[67]

The second drawback to the thesis that the generalized angiopathy of the chronic diabetic syndrome is related to the degree of carbohydrate tolerance is the number of observations that all of the "complications" may occur independently of significant hyperglycemia. These "complications" have even been reported to occur as the initial manifestation of diabetes mellitus.* Furthermore, the fact that the "complications" can occur in patients with maturity onset diabetes, in the face of only minimal abnormalities of glucose tolerance and in the absence of demonstrable insulin deficiency, suggests that neither hyperglycemia nor insulin lack is essential for development of the chronic diabetic syndrome.

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*Reference Nos. 22, 24, 26, 41, 64, 67, 68.

These comments should not be interpreted nihilistically. It is quite clear that general health and well-being are greatly increased by the control of hyperglycemia in patients with diabetes. Furthermore, there is considerable evidence indicating that careful control of abnormal carbohydrate metabolism may minimize the clinical severity of the chronic diabetic syndrome.[38,24,67] However, neither of these considerations negates the fact that there are serious shortcomings in attributing the development of the chronic diabetic syndrome to insulin deficiency or hyperglycemia alone.

As a result of some of these considerations, an alternative view has emerged: that the non-carbohydrate manifestations of diabetes are not complications but essential features of the complete syndrome of diabetes mellitus. This formulation suggests that the hyperglycemia and generalized angiopathy are both secondary to a more fundamental defect. If this were the case, it would seem reasonable to expect that varying degrees of carbohydrate intolerance and angiopathy would occur in any given individual, and that no cause and effect relationship would be detected between these two manifestations of the generalized diabetogenic diathesis. Although this concept has certain obvious advantages, it does not provide a more satisfactory explanation for the relationships that have been observed between hyperglycemia and the non-carbohydrate aspects of the diabetic syndrome.

If both the carbohydrate and non-carbohydrate abnormalities associated with diabetes mellitus are secondary to a more fundamental defect, destruction or removal of the pancreas should result in only the carbohydrate abnormalities of diabetes. Although there is not universal agreement concerning this issue, both diabetic retinopathy and nephropathy have been observed in patients in whom diabetes has resulted from pancreatic insufficiency secondary to pancreatectomy, chronic pancreatitis and hemochromatosis.† Although these observations do not mean that the non-carbohydrate aspects of the chronic diabetic syndrome are necessarily "complications" of pancreatic insufficiency, they do imply that these degenerative manifestations can occur in association with pancreatic insufficiency.

Another implication of the assumption that both the carbohydrate and non-carbohydrate aspects of diabetes are secondary to a diabetogenic diathesis is that these two abnormalities should be associated in an infinite variety of ways. This does not seem to be the case. Patients with juvenile diabetes do not initially present with evidence of degenerative lesions. Hyperglycemia and its attendant physiological sequelae are the immediate manifestations of diabetes in these patients. The appearance of the lesions of the chronic diabetic syndrome is delayed until years after the initial diagnosis of diabetes. It is not clear that anything can be done to forestall the onset of these lesions, but it is clear that they take time to develop.[14] In contrast, it has already been pointed out that quite frequently patients with maturity onset diabetes will present with manifestations of the chronic diabetic syndrome. In these cases it is apparent that there has not been a prolonged pre-existing period of hyperglycemia. Furthermore, it is extremely unusual for the insulin-sensitive, ketotic form diabetes to develop in patients of this age group. Consequently, rather than observing infinite combinations of pancreatic insufficiency and generalized angiopathy, the physician sees two different forms of clinical diabetes, with degenerative lesions common to both of them.

Summary: The chronic diabetic syndrome can be defined in terms of a generalized angiopathy involving the eye, kidney, heart, nervous and vascular system occurring in patients with diabetes mellitus. The incidence of such involvement seems to be increasing since the advent of insulin. Although the increase may be simply due to increased longevity, it still represents a clinical problem of the greatest magnitude. The possibility that it is related to hyperglycemia or insulin deficiency alone seems extremely unlikely as all of these manifestations can occur in patients with maturity onset diabetes, who do not have significant hyperglycemia and in whom evidence of insulin deficiency cannot be established. Demonstration that the chronic diabetic syndrome can occur in patients following removal or destruction of the pancreas makes it difficult to accept the hypothesis that the carbohydrate and non-carbohydrate aspects of diabetes are both secondary to a more fundamental defect. Although control of hyperglycemia in patients with juvenile diabetes may minimize the clinical severity of the chronic diabetic syndrome, its presence in such patients relates best with the duration of the diabetes. Finally, the basic problem would appear to be that similar manifestations of the chronic diabetic syndrome may occur in patients with extremely dissimilar clinical syndromes. At the present time there does not appear to be any known factor, common to patients with the juvenile and maturity onset form of diabetes, that can account for the development of the chronic diabetic syndrome.

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*Reference Nos. 6, 16, 21, 26, 43, 49, 65.

†Reference Nos. 8, 9, 15, 23, 34, 45, 54.

EARLY DETECTION OF DIABETES MELLITUS

The diagnosis of diabetes mellitus is currently based upon the demonstration of abnormal carbohydrate metabolism. It has been known for some time that certain stigmata exist in patients that may herald the appearance of diabetes. These include a family history of diabetes,[47] an increased incidence of perinatal mortality and birth of large babies,[36,39,69] premature vascular degeneration,[49] and late reactive hypoglycemia.[52] These observations, plus the realization that the chronic diabetic syndrome may develop in patients without manifest diabetes, have resulted in efforts to diagnose diabetes before the onset of frank hyperglycemia. Conn and Fajans have been leaders in the attempt to establish the earliest possible diagnosis of diabetes, and it would seem worthwhile to summarize in some detail their investigative efforts of the last several years.[17-19,28-30]

The observation that a state of transient diabetes could be produced in normal subjects given adrenal corticoids serves as the basis for the cortisone glucose tolerance test (CGTT) developed by Conn and Fajans.[19] The only differences between the CGTT and the standard oral glucose tolerance test (GTT) are that the subject receives a standard amount of cortisone eight and one-half hours and again two hours before the oral glucose load, and that the blood glucose concentration criteria for a normal response are liberalized. Using the CGTT, Conn and Fajans reported a positive response in only 4 per cent of 105 patients who did not have a family history of diabetes. In contrast, 26 per cent of 393 non-diabetic relatives of diabetic patients had a positive response. Subsequent follow-up demonstrated that approximately one-third of the subjects with a diabetic family history and a positive CGTT response eventually satisfied the more conventional criteria for the diagnosis of diabetes. Diabetes developed in only 2 per cent of 71 patients with a negative CGTT response in the same length of time.[17]

Not all investigators have been able to demonstrate that the CGTT differentiates so convincingly between two populations consisting of subjects with and without a family history of diabetes, but significant modifications had been made of the test as originally described.[37,66] A more meaningful criticism concerns the effects of age and pregnancy on the interpretations of the CGTT.[37,49] Work carried out in our laboratory indicated that approximately 25 per cent of an older population, without a family history of diabetes, had a positive CGTT response. Furthermore, there was a very significant correlation between increasing age and a positive CGTT. It is interesting in this regard that we could establish no correlation between increasing age and a positive GTT. The possibility that age may affect the CGTT had been noted by Conn, who indicated that 48 per cent of a very small group of patients over the age of 48 had a positive CGTT.[17] It would seem that although the CGTT may provide extremely useful information about carbohydrate tolerance in certain age groups, it must be interpreted with great caution as the age of the group being studied increases.

Assuming that the CGTT has utility in establishing the early diagnosis of diabetes mellitus, a more meaningful question would be as to its significance. The cortisone glucose tolerance test is thought to represent the earliest means of establishing a loss of carbohydrate tolerance. The appearance of a positive CGTT is said to mark the end of the stage of "prediabetes." This period is defined as existing from conception to the first evidence of abnormal carbohydrate metabolism, during which time glucose homeostasis is said to be maintained only because the pancreas is capable of secreting increased amounts of insulin which is suboptimal in its biological activity. Consequently, a positive CGTT is taken to mean that the pancreas no longer has the ability to maintain normal glucose homeostasis. Further deterioration of islet cell function will result in progressively more severe hyperglycemia.

The significance of the CGTT is based upon a view which considers diabetes to comprise an infinite series of points going from adequate insulin to no insulin. Hence the subject with a positive CGTT is one who has a little more insulin than a patient with a positive GTT. However, there is considerable evidence to indicate that the levels of circulating insulin in patients with maturity onset diabetes are not decreased. Furthermore, since this has been shown with both the immunochemical and the bioassay, it is difficult to accept the hypothesis that patients with diabetes are secreting insulin which is suboptimal in its biological activity. Finally, the work of Antoniades provided direct evidence that insulin secreted from the pancreas of patients with maturity onset diabetes is identical in amount and activity to that seen in normal subjects. Consequently, although the CGTT may have considerable empirical value as a method of establishing a state of abnormal carbohydrate metabolism, a positive CGTT is not necessarily synonymous with abnormal beta cell function, either qualitatively or quantitatively.

If the CGTT is to have clinical significance, it must provide information that cannot be obtained through more conventional means. It has already been pointed out that it may, at least within specified age groups, document the earliest appearance of abnormal carbohydrate metabolism. Furthermore, Conn and Fajans have indicated that in a significant number of subjects with a positive CGTT, carbohydrate tolerance deteriorates further as time passes. The degree of this deterioration, which has not been made clear, would seem to be of utmost importance in order to evaluate the use of the CGTT. For example, Conn and Fajans have indicated that a given individual can pass back and forth between a positive CGTT and a positive GTT with gain or loss of weight.[17] The importance of being able to document this small variation of carbohydrate tolerance, exhibited by an individual who could well be classified as having maturity onset diabetes, remains to be seen. If, on the other hand, it can be shown that a significant number of patients progress from a positive CGTT, through a positive GTT, and then develop ketotic, insulin-sensitive, juvenile diabetes, the CGTT may indeed become an important landmark, through which all patients pass in their progression from normal carbohydrate metabolism to juvenile diabetes.

Finally, the earlier a diagnosis is made, the greater the likelihood of achieving therapeutic success. Since the CGTT may be the means by which diabetes might be currently diagnosed in its earliest stage, it is imperative to consider the possible utility of this test in attempts to alter the natural history of the disease. For example, demonstration of a positive CGTT in a subject with a diabetic family history might serve as an indication for therapeutic intervention in an effort to limit progression of the diabetes. Indeed, efforts in this direction have been made by Conn and Fajans by the administration of tolbutamide to young, asymptomatic patients with mild diabetes.[31] In these cases, they have been able to demonstrate return to normal carbohydrate metabolism in some, and pronounced improvement in others.

The possibility of forestalling the progression of diabetes in patients with a positive CGTT will become clearer when there is more information concerning the natural history of patients followed from the time of the first abnormal tolerance test. In this regard the recent work of Antoniades, indicating that tolbutamide improves glucose tolerance by making more "free" insulin available to the peripheral tissues, is interesting.[4]

It has previously been pointed out that manifestations of the chronic diabetic syndrome not infrequently precede clinical recognition of diabetes. A good example of this phenomenon is the recent demonstration that approximately 40 per cent of a group of patients with arteriosclerotic heart disease had previously unrecognized maturity onset diabetes.[49] The possible predictive role of CGTT in stimulating attempts to modify the appearance of the chronic diabetic syndrome in certain susceptible persons — for example, those with a family history of diabetes or premature vascular disease — is apparent. Again, as in the case of the carbohydrate aspects of diabetes, the ultimate role of the CGTT will depend upon further knowledge of the course of patients with a positive CGTT as the first manifestation of diabetes.

Summary: The cortisone glucose tolerance test, when carried out as defined by Conn and Fajans, appears to provide the earliest means of recognizing diabetes currently available, and as such represents a significant contribution to further understanding of this complex disease. Although potentially of extreme clinical usefulness, the cortisone glucose tolerance test must still be considered to be in the investigative stage.

CONCLUDING REMARKS

Clinical research in diabetes has been dominated since the original report of Banting and Best by the concept that diabetes mellitus is a deficiency disease, and that all its manifestations arise from the inability of the pancreas to secrete sufficient insulin. Although this viewpoint is still the prevailing one, results of some recent investigations have led to a general reevaluation of this thesis. The major difficulty in establishing a common pathogenesis for the complete syndrome of diabetes seems to lie in the observation that two very dissimilar forms of clinical diabetes appear to share a similar pattern of inheritance and generalized vascular involvement. The clinical differences between juvenile and maturity onset diabetes have been further emphasized by recent measurements of circulating insulin. Although the patient with juvenile diabetes appears to have a decrease in circulating insulin, the patient with maturity onset diabetes has been shown to exhibit hyperglycemia in the face of elevated levels of plasma insulin, measured both chemically and biologically. It is clear that the results of some of these investigations have raised more questions than they have answered. It is also clear that they have been the source of some extremely important new developments, not the least of which is the concept of the "prediabetic" state. It seems quite likely that the next decade may be the most fruitful investigative period since the advent of insulin.

Metabolic Research Unit, Stanford Medical Center, 300 Pasteur Drive, Palo Alto, California 94304 (Reaven).

REFERENCES

1. Allen, F. M.: Studies Concerning Glycosuria and Diabetes, W. Leanord, Boston, 1913.

2. Antoniades, H. N., Bougas, J., and Pyle, H.: Studies on the state of insulin in the blood, New Eng. J. Med., 267: 218, 1962.

3. Antoniades, H. N., Bougas, J. A., Pyle, H. M., Camerini-Davalos, R., and Gundersen, K.: Studies on the state of insulin in the blood, New Eng. J. Med., 267:953, 1962.

4. Antoniades, H. N., Bougas, J., Camerini-Davalos, R., Pyle, H., Mazurkie, S., Lozano-Castaneda, S. and Marble, A.: Insulin regulatory mechanisms in diabetes mellitus, New Eng. J. Med., 269:386, 1963.

5. Armin, J., Cunningham, N. F., Grant, R. T., Lloyd, M. K., and Wright, P. H.: Acute insulin deficiency provoked in the dog, pig and sheep by single injections of anti-insulin serum, J. Physiol., 157:64, 1961.

6. Arnold, J., Tarlov, A., Spargo, B., and Brewer, G.: Subclinical diabetes mellitus in patients presenting with clinical glomerulonephritis, Trans. Ass. Amer. Phys., 71:186, 1958.

7. Banting, F., and Best, C. H.: Pancreatic extracts, J. Lab. & Clin. Med., 7:464, 1922.

8. Becker, D., and Miller, M.: Presence of diabetic glomerulosclerosis in patients with hemachromatosis, New Eng. J. Med., 263:367, 1960.

9. Bell, E. T.: Carcinoma of the pancreas I, Amer. J. Path., 33:449, 1957.

10. Bell, E.: A postmortem study of vascular disease in diabetes, Arch. Pathol., 53:444, 1952.

11. Berkman, J.: Pathology, Clinical Diabetes Mellitus, ed., Ellenberg, M. and Rifkin, H., McGraw Hill, New York, 1962, p. 123.

12. Berson, S., Yalow, R.: Plasma insulin in health and disease, Amer. J. Med., 31:882, 1961.

13. Bornstein, J., and Lawrence, R.: Plasma insulin in human diabetes mellitus, British Med. J., 2:1541, 1951.

14. Bryfogle, J., and Bradley, R.: The vascular complications of diabetes mellitus, Diabetes, 6:159, 1957.

15. Burton, J., Kearns, T., Ryncarson, E.: Diabetic retinopathy following total pancreatectomy, Proc. Staff Mtg., Mayo Clinic 32:735, 1957.

16. Collens, W., Silverstein, J., and Dobkin, G.: Case of a diabetic with Kimmelsteil-Wilson syndrome and a normal glucose tolerance, Ann. Int. Med., 50:1282, 1959.

17. Conn, J. and Fajans, S.: The prediabetic state, Am. J. Med., 31:839, 1961.

18. Conn, J.: The prediabetic state in man, Diabetes, 7:347, 1958.

19. Conn, J., Louis, L. H., and Wheeler, C. E.: Production of temporary diabetes mellitus in man with pituitary adrenocorticotropic hormone, J. Lab and Clin. Med., 33:651, 1948.

20. Davidson, J., Haist, R.: A new method for recovery of insulin like activity from serum, Lancet, 11:656, 1963.

21. Daysog, A., Dobson, H., and Brennan, J.: Renal glomerular and vascular lesions in prediabetes and in diabetes mellitus, Ann. Int. Med., 54:672, 1961.

22. Dolger, H.: Clinical evaluation of vascular damage in diabetes mellitus, J.A.M.A., 134:1289, 1937.

23. Duncan, L., MacFarlane, A., Robson, J.: Diabetic retinopathy and neuropathy in pancreatic diabetes, Lancet 19, April, p. 822, 1958.

24. Dunlop, D.: Are diabetic complications preventable? Brit. Med. J., 1:383, 1954.

25. Ellenberg, M., Rifkin, H.: ed. Clinical Diabetes Mellitus, McGraw Hill, New York, 1963.

26. Ellenberg, M.: Diabetic complications without manifest diabetes, J.A.M.A., 183:926, 1963.

27. Ensinck, J., Vallance-Owen, J.: Antagonism of insulin by the albumin-bound "b" chain of insulin, Diabetes, 12:353, 1963 (Abstract).

28. Fajans, S. and Conn, J.: The early recognition of diabetes mellitus, Ann. N. Y. Acad. Sci., 82:197, 1959.

29. Fajans, S. and Conn, J.: An approach to the prediction of diabetes mellitus by modification of the glucose tolerance test with cortisone, Diabetes, 3:296, 1954.

30. Fajans, S. and Conn, J.: Comments on the cortisone glucose tolerance test, Diabetes, 10:63, 1961.

31. Fajans, S., and Conn, J.: Tolbutamide-induced improvement in carbohydrate tolerance of young people with mild diabetes mellitus, Diabetes, 9:83, 1960.

32. Grodsky, G., and Forsham, P.: An immunochemical assay of total extractable insulin in man, J. Clin. Invest., 39:1070, 1960.

33. Groen, J., Kamminga, C. E., Willebrands, A. F., and Blickman, J. R.: Evidence for the presence of insulin in blood serum, J. Clin. Invest., 31:97, 1952.

34. Gross, J., and Comfort, M. W.: Chronic pancreatitis, Am. J. Med., 21:596, 1956.

35. Hartcroft, W.: Islet pathology in diabetes, Diabetes, 5:98, 1956.

36. Jackson, W. P. U.: State of prediabetes, S. Afr. J. Lab. Clin. Med., 6:127, 1960.

37. Jackson, W. P. U.: The cortisone-glucose tolerance test with special reference to the prediction of diabetes, Diabetes, 10:33, 1961.

38. Joslin, E. P., Root, H., White, P., and Marble, A.: The Treatment of Diabetes Mellitus, Lea & Febiger, Philadelphia, 1959, p. 28.

39. Kyle, G. C.: Diabetes and pregnancy, Ann. Int. Med. Supplement, 3:4761, 1963.

40. Levine, R.: On some biochemical aspects of diabetes mellitus, Amer. J. Med., 31:901, 1963.

41. Lundback, K.: Long-Term Diabetes, Ejnam Munksgaard, Copenhagen, 1953.

42. Lukens, F. D. W.: Alloxan diabetes, Physiol., Rev. 28:304, 1948.

43. Megibow, R., Megibow, S., Pollack, H., Bookman, J. and Osserman, K.: The mechanisms of accelerated peripheral vascular sclerosis in diabetes mellitus, Amer. J. Med., 15:322, 1953.

44. Martin, D. B., Renold, A. E., Dagenais, Y. M.: An assay for insulin like activity using rat adipose tissue, Lancet, 1958, 276.

45. McCullough, E. P., Cook, J. R., and Skirey, E. K.: Diabetes following total pancreatectomy, Diabetes, 7:298, 1958.

46. Naunyn, B.: Der Diabetes Mellitus, 2nd ed. A. Hold ed. Vienna, Austria, 1906.

47. Pincus, G. and White, P.: On the inheritance of diabetes mellitus, Am. J. Med. Sci., 186:1, 1933.

48. Randle, P. J.: Assay of plasma insulin activity by the rat diaphragm technique, Brit. Med. J., 1:1237, 1954.

49. Reaven, G., Calciano, A., Cody, R., Lucas, C., and Miller, R.: Carbohydrate intolerance and hyperlipemia in patients with myocardial infarction without known diabetes mellitus, J. Clin. Endocr. & Metab., 23:1013, 1963.

50. Samaan, N., and Fraser, R.: Typical and atypical serum insulin like activity in untreated diabetes mellitus, Lancet, 11:311, 1963.

51. Samaan, N., Fraser, R., and Dempster, W.: The "typical" and "atypical" forms of serum insulin, Diabetes, 12:339, 1963.

52. Seltzer, H., Fajans, S., and Conn, J.: Spontaneous hypoglycemia as an early manifestation of diabetes mellitus, Diabetes, 5:437, 1956.

53. Sheps, M. C., Nickerson, R., Dagenais, Y., Steinke, J., Martin, D., and Renold, A. E.: Measurement of small quantities of insulin like activity using rat adipose tissue, J. Clin. Invest., 39:1487,1499, 1960.

54. Sprague, R.: Diabetes mellitus associated with chronic relapsing pancreatitis, Proc. Staff Meet., Mayo Clinic, 22:553, 1947.

55. Steinke, J., Camerini, R., Marble, A., and Renold, E.: Elevated levels of serum insulin like activity as measured with adipose tissue in early untreated diabetics and prediabetics, Metabolism, 10:707, 1961.

56. Steinke, J., Taylor, K., Renold, E.: Insulin and insulin antagonists in the serum of untreated juvenile diabetics, Lancet, 1:30, 1961.

57. Taylor, K. W.: Serum insulin in early cases of severe diabetes, Brit. Med. J., 1:511, 1963.

58. Vallance-Owen, J.: Assays of Insulin in the Plasma. Diabetes, Williams, R. H., ed. Diabetes, New York, Paul B. Hoeber Co., 1960.

59. Vallance-Owen, J., Hurlock, B., and Please, N.: Plasma insulin activity in diabetes mellitus measured by the rat diaphragm, Lancet, 11:583, 1955.

60. Vallance-Owen, J.: Antagonism of insulin by albumin, Lancet, 1:802, 1961.

61. Vallance-Owen, J.: An insulin antagonist associated with plasma albumin, Lancet, 1:804, 1961.

62. Vallance-Owen, J., Lilley, M.: Insulin antagonism in the plasma of obese diabetics and prediabetics, Lancet, 1:806, 1961.

63. Von Mering, J., Minkowski, O.: Diabetes Mellitus nach Pankreasextirpation, Arch. Exper. Path. U. Pharmakol., 26:371, (1889).

64. Wagener, H.: Retinopathy in diabetes mellitus, Proc. Amer. Diabetes Assoc., 5:203, 1945.

65. Warren, S., LeCompte, P.: The Pathology of Diabetes Mellitus, 3rd ed. Philadelphia, Lea and Febiger, 1952.

66. West, K. W.: Response to cortisone in prediabetes. Glucose and steroid glucose tolerance in subjects whose parents are both diabetic, Diabetes, 9:379, 1960.

67. White, P., and Waskow, E.: Clinical pathology of diabetes in young patients, S. Med. J., 41:561, 1948.

68. White, P.: The natural course and prognosis of juvenile diabetes, Diabetes, 5:445, 1956.

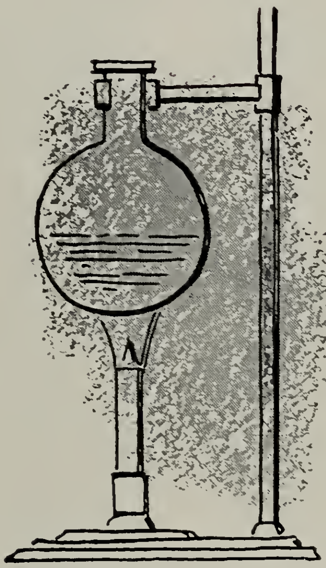
69. Wilkerson, H.: Pregnancy and the prediabetic state, Ann. New York Acad. Sci., 82:219, 1959.

70. Williams, R. H.: ed. Diabetes, New York, Paul B. Hoeber Co., 1960.

71. Wrenshall, G. A., Bogoch, A., and Ritchie, R. C.: Extractable insulin of the pancreas, Diabetes, 1:87, 1952.

72. Wright, P.: The production of experimental diabetes by means of insulin antibodies, Amer. J. Med., 31:892, 1961.

73. Yalow, R., Berson, S.: Immunoassay of endogenous plasma insulin in man, J. Clin. Invest., 39:1157, 1960.



Clinical Evaluation of the Latex Flocculation Test for Pregnancy

RICHARD I. FUKUMOTO, ***M.D.,*** **REUBEN A. RAMKISSOON,** ***M.D.,*** **and ELMER R. JENNINGS,** ***M.D.,*** **Long Beach**

• Simultaneous pregnancy tests were run on duplicate specimens of urine by the Friedman method and the latex flocculation method on 329 patients. Clinical correlation was available in 245 of these patients. The latex test had a sensitivity of 77 per cent and a specificity of 92 per cent in the overall diagnosis of pregnancy. The Friedman test had corresponding values of 93 per cent and 97 per cent, respectively. Not until the second month of pregnancy did the latex test become sensitive enough for practical use.

The Friedman test, which takes 48 hours, is more sensitive and specific for the determination of pregnancy than the in vitro latex flocculation test, the results of which are known in four hours.

Several laboratory tests have been utilized in the early diagnosis of pregnancy, most of them biologic tests with excellent sensitivity. Although these biologic procedures are reliable and easily performed, they have the disadvantages of the time required for the tests and the maintenance and care of laboratory animals.

The latex flocculation pregnancy test is based on an agglutination reaction in which anti-human chorionic gonadotropin antibody reacts in combination with the antigen polystyrene latex particles coated with human chorionic gonadotropin. In the pregnant patient, the urinary chorionic gonadotropin reacts with the anti-human chorionic gonadotropin antibodies, inhibiting the agglutination of the polystyrene latex particles. In the non-pregnant patient, on the other hand, the anti-human chorionic gonadotropin antibody remains free and can react with the polystyrene latex particles, with resultant agglutination.

The study reported in this communication represents an evaluation of an immunologic in vitro test and a biologic test for the diagnosis of pregnancy. The immunologic method consisted of a latex flocculation test[7] and the biologic test was the Schneider modification of the Friedman test.[6]

Materials and Methods

The study consisted of 329 specimens of urine from patients in whom pregnancy was suspected. The specimens were divided and the latex flocculation test was performed on one aliquot of urine according to the instructions outlined by the manufacturer. The Friedman test was run on the corresponding aliquot.

In this study, a correlation was made between the results of the latex test, the Friedman test and the clinical diagnosis. Clinical evaluation was available in 245 of the patients. A correlation was also made between results of these tests and the known length of the gestational period at the time the tests were done. The results are listed in Tables 1, 2 and 3.

Discussion

The level of human chorionic gonadotropin rises in the blood and urine during the first trimester, and it is during the latter half of this period that pregnancy tests are most reliable. Thereafter, the concentration declines rapidly although detectable levels are present until a week following parturition.[3]

The result of the latex test was compared with that of the Friedman test as outlined in Table 1. There were discrepancies in both the positive and negative results. To define the accuracy of each test, the results were correlated with the final clinical diagnosis as shown in Table 2. The Friedman test had a sensitivity of 93 per cent and a specificity of 97 per cent, whereas the latex test had corresponding values of 77 per cent and 92 per cent. Goldin[2] in his series observed a sensitivity of 94.9 per cent and a specificity of 96.7 per cent for the latex test. Henry and Little[4] found a specificity of about 95 per cent. In larger series by Eden and Black,[1] sensitivity of 92.2 per cent and specificity of 95.2 per cent were noted for the Friedman test and the corresponding values for the latex test were 72.8 and 87 per cent. Olson and Adducci[5] reported an accuracy of 88.24 per cent in early pregnancy with the latex test compared with 97.32 per cent for the rat ovarian hyperemia test. In their series, the accuracy of the latex test in late pregnancy was

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From the Department of Pathology, Memorial Hospital of Long Beach, Long Beach.

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TABLE 1.—*Comparison of the Latex Test with Friedman Test*

Reaction	Latex Test	Friedman Test
Positive	87	111
Negative	158	134

TABLE 2.—*Correlation of Latex Test, Friedman Test and Clinical Diagnosis*

	Patients Pregnant	Patients Not Pregnant
Latex negative Friedman negative	7	120
Latex negative Friedman positive	29	2
Latex positive Friedman negative	2	5
Latex positive Friedman positive	78	2

TABLE 3.—*Correlation of Latex Test, Friedman Test and Length of Gestation*

Gestational Period	Latex Test		Friedman Test	
Less than 6 weeks	positive	5	positive	14
	negative	10	negative	1
6 to 9 weeks	positive	42	positive	51
	negative	11	negative	2
9 to 13 weeks	positive	16	positive	16
	negative	0	negative	0
More than 13 weeks	positive	6	positive	6
	negative	1	negative	1
Unknown	positive	10	positive	12
	negative	2	negative	0

70.45 per cent as compared with 90.91 per cent for the rat hyperemia test.

Because of the poor sensitivity of the latex test, an attempt was made to determine when in the gestational period the latex test becomes significantly sensitive. The data on this study are summarized in Table 3.

It was apparent that the majority of the false negative results occurred within nine weeks from the onset of the last normal menstrual period and were more frequent with the latex test than the Friedman test. The latex test was of little value before the sixth week after the last normal menstrual period. However, after the second month, the latex test appeared quite reliable. The poor sensitivity of the latex test may be explained by the low concentration of chorionic gonadotropin during the early gestational period. Previous reports have stressed the importance of urine concentration. The tests in the present study were done with urine having a specific gravity of 1.015 or greater.

Both tests are simple procedures. The Friedman test requires 48 hours to complete and the latex test four hours. The major disadvantage to the Friedman test lies in the greater time involved and the care of the rabbits. The greater accuracy of the Friedman test outweighs this inconvenience. The Friedman test is more sensitive and specific for the determination of pregnancy than the in vitro immunologic test.

Department of Pathology, Memorial Hospital of Long Beach, Long Beach, California 90806 (Ramkissoon).

REFERENCES

1. Eden, J., and Black, I.: A clinical comparison between the Friedman test and an *in vitro* test for pregnancy, Canad. Med. Assn. J., 88:792-796, April 13, 1963.

2. Goldin, M.: The use of latex particles sensitized with human chorionic gonadotropin in a serologic test for pregnancy, Amer. J. Clin. Path., 38:335-338, Sept., 1962.

3. Greenhill, J. P.: Obstetrics, Ed. 12. W. B. Saunders Comp., Philadelphia and London, 1960.

4. Henry, J. B., and Little, W. A.: Immunological test for pregnancy, J.A.M.A., 182:230-233, Oct. 20, 1962.

5. Olson, A. M., and Adducci, J. E.: An evaluation of the latex flocculation test in the diagnosis of pregnancy, Am. J. Clin. Path., 39:589-592, June, 1963.

6. Schneider, P. F.: A hormone test for the diagnosis of early pregnancy; clinical application in 100 cases, preliminary report, Surg., Gynec. & Obst., 52:56-60, Jan., 1931.

7. Seminar Report No. 568—P1: Ortho Research Foundation, Raritan, New Jersey.

A New Diagnostic Sign in Neck Injuries

HAROLD CROWE, *M.D.*, Los Angeles

• The aggravation of neck pain and headache as a result of the use of diathermy or other forms of energy in the treatment of neck sprain may represent a diagnostic sign by which to distinguish severe injury of the neck from simple sprain.

In the case of simple neck sprain, the patient's complaints may be inadvertently continued more or less indefinitely by the use of high frequency energy or even locally applied heat. That recovery sometimes follows settlement of litigation in such cases may be due not to the award of money but to discontinuance of an aggravating medical treatment.

IN 1928, PRESENTING a report on eight cases of neck injuries resulting from traffic accidents before the Western Orthopedic Association in San Francisco, I used the unfortunate term *whiplash.* This expression was intended to be a description of motion, but it has been accepted by physicians, patients and attorneys as the name of a disease; and the misunderstanding has led to its misapplication by many physicians and others over the years. This discussion is a reconsideration of the epithet after 34 years, and it results from the study of more than three hundred cases of injury to the neck in a recent three-year period. The patients had been referred for evaluation of the result of neck injuries received in traffic accidents. Each was given more than an hour to permit careful listening to a description of all his injuries, his treatment, his reaction to treatment and his final result.

Out of this three-year study there appeared what seems to be a new diagnostic sign with regard to the severity of the neck injuries resulting from traffic accidents. The sign is the aggravation of the neck pain or headache by the use of diathermy, heat, ultrasonic therapy, microthermy and, in some cases, by the use of traction while treatment is being administered. With progression of the study it became apparent that this sign was present in a small proportion of cases but still might be of some value, since all physicians faced with neck sprains resulting from traffic accidents find themselves at a loss originally to identify those cases in which severe injuries have been suffered. More valuable than the sign may be two corollaries which arose from this study. They make it possible to distinguish clearly between the patient with a severe injury whose pain is aggravated by the local application of heat, and the patient with a minor sprain to whom the heat is comforting and relaxing. First it became apparent that in cases of minor neck sprain the use of some form of local heat might cause symptoms to continue more or less indefinitely — frequently until the time the patient came to a court hearing with regard to his injury. The sometimes sudden recovery of these patients following the settlement of litigation has been attributed in some quarters to relief afforded by financial settlement. I do not consider this a true evaluation. I believe that the relief often may be due to discontinuance of medical treatment after a settlement is reached.

The second corollary is the observation that even in the absence of neck injury, many persons in their middle years in whom the common degeneration of the middle cervical spaces is present can be rendered symptomatic by the use of some form of high frequency treatment such as diathermy, microthermy or ultrasound.

In addition to these two corollaries, there is a further observation which is of interest because of the fact that it has been recognized by claims adjusters for a number of years and has apparently been entirely overlooked by physicians. This is the fact that in unusually violent automobile accidents in which major injuries are suffered, such as pelvic fractures, hip dislocation and the like, the patients never complain of neck injury. Even when specifically questioned on the point, these patients unhesitatingly reply they had no neck injury. I have insistently questioned such persons, despite their first quick denial, and have noted that almost invariably they at last recollect that for a time after they were out of the hospital but still going to a physician for treatment, they did have some difficulty in turning the head to back a car. Invariably they remarked that they had completely forgotten about this problem.

This observation leads to the obvious conclusion that on the occasion of the original injury the attention of physician, patient and nurses was focused on the major injury to the exclusion of the possibility of neck injury. It may be conjectured that

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consequently the neck, which had no treatment except for rest, recovered because of the absence of treatment — this being so little noticed that the patient himself in time had no spontaneous recollection of stiffness or discomfort in the neck. This lack of recall of this kind of discomfort has been observed even in persons in a position of claimant in actions at law.

In searching for an explanation of the diagnostic sign described herein, I conjectured that pain at the site of sprain was brought about by edema. In pursuing this thought, I reviewed numerous papers on the effect of the local application of heat, including one by Green and Gucker.[4] This review brought me to the impression, which is now well established, that any form of heat applied locally for a half hour would produce some degree of edema at the site. Hence possibly the aggravation of pain by the application of local heat was due to the production of edema in the sprained area. The aggravation of pain by the application of repeated trauma through motorized traction might also be owing to the production of local edema.

That pain produced by ultrasonic therapy may aggravate the effect of neck sprains is easily believable to one who listens carefully to the histories of patients. The use of pain thus produced experimentally in the study of analgesic drugs is well known since the report of Holliday and Dille in 1960.[5] Ultrasonic therapy may also be found intolerable by patients with severe neck injuries.

Conclusion: The aggravation of pain with the use of diathermy, ultrasound or other local application of energy may be considered a diagnostic sign in the early recognition of severe neck sprains.

635 South Westlake Avenue, Los Angeles, California 90057.

REFERENCES

1. Davis, Arthur: Injuries of the cervical spine, J.A.M.A., 127:149-56, January 1945.

2. Graham, Homer and Peterson, Ralph: Stiff neck, J. Bone & Joint Surg., 39A:455, 1957.

3. Gotten, Nicholas: Surgery of 100 cases of whiplash injury after settlement of litigation, J.A.M.A., 162:865-867, October 1956.

4. Green, W. T., Gucker, T. III: Moist heat in poliomyelitis therapy, Am. J. of Med. 6:606-613, May 1949.

5. Holliday, Audrey R. and Dille, James M.: An experimental investigation of the change effected by the ingestion of carisoprodol, aspirin, codeine, and a placebo upon the threshold for deep pain induced by ultrasonic stimulation, Ann N. Y. Acad. Sciences, 86: Art 1, 147-161, March 1960.

Injury to the Respiratory Tree

Roentgenologic Findings After Severe Blunt Trauma

M. B. OZONOFF, *M.D.*, San Francisco

• **The roentgenologic signs of free air in the subcutaneous, mediastinal pleural spaces may be indicative of fractures of the trachea and bronchi and injuries to the larynx. While these findings are also present in otherwise uncomplicated rib fracture and following tracheostomy, care must be taken to make sure that the cause of these abnormalities is not an unrecognized bronchial or tracheal rupture.**

ASSOCIATED WITH THE high-speed amenities of modern life are the well-known increased risks of trauma to the body. Unlike deep laceration, which calls attention to the possibility of severe injury, blunt trauma may cause severe internal injury that goes unnoticed in the absence of external marks of violence. When available, roentgenologic procedures aid in the investigation of these deeper injuries. While the simpler roentgen examinations may not give information adequate for diagnosis of the primary injury, in most cases they will show enough abnormality to suggest further search for severe injury.

This report deals with roentgenologic observations in a group of patients who had blunt trauma to the respiratory tree. Injuries other than rupture or internal dislocation of the larynx, trachea and bronchi will not be described.

The bronchi and lower trachea are deeply buried in the chest and, presumably, are well protected from any force not penetrating the thoracic wall. Many reports, however, document the occurrence of rupture of the lower trachea and bronchi through blunt trauma. Burke,[4] who reviewed all reported cases of ruptured bronchus to 1960, collected 167 instances. Norlin[14] postulated that forcible compression of the bronchus between the anterior wall of the chest and the spine can produce rupture if the glottis is closed. In the cases reviewed by Hood and Sloan[8] and Kinsella and Johnsrud,[10] more than 90 per cent of the ruptures took place in the larger bronchi, within 1 to 2 cm of the carina. Complete avulsion from a shearing mechanism was the usual injury of the bronchus observed by Hood and Sloan. In the trachea, a linear, posterior vertical laceration was more common. Bronchial injury from blunt trauma was more than four times as common as tracheal laceration in their patients.

In Burke's series, 10 per cent of the patients with later-proved bronchial injury showed no abnormality on the initial clinical and roentgenologic examination. Most patients (79 per cent) responded easily to standard treatment measures and bronchial rupture was not suspected at that time. Later, when stenosis developed, it was believed that the site of transection had been sealed off initially or had remained ensheathed in the pleura. Had these injuries been recognized, primary repair probably could have prevented the stenosis. Because tracheal injuries give more alarming symptoms and signs, the sequela of late stenosis resulting from hidden rupture should be infrequent. Injury to the larynx is usually obvious because of respiratory distress and because this area is easily visible.

Associated thoracic cage and cardiopulmonary lesions will not be considered in detail here. Lesions of the ribs and lungs are seen often without respiratory tree injury as well as with bronchial and tracheal trauma. The incidence of cardiac injury is higher in young persons than in older ones, owing to the greater elasticity of the thoracic wall in the young; and a corollary is that rib fractures are fewer.[1,3] Burke stated that in patients older than 30 years, one or more of the first five ribs were always fractured with bronchial rupture. In more than 90 per cent of the cases he reviewed, one or more of the first three ribs were involved. Pulmonary hematoma, laceration and emphysema were also seen, along with pleural changes, both in bronchial avulsion and in cases of trauma without this injury. In Westermark's[17] patients injured by blunt violence, 76 per cent had roentgenologic evidence of abnormalities. Changes in the lung or pleura were seen roentgenologically in 87 per cent of his patients with rib or sternal fracture.

Rupture or laceration of a portion of the respiratory tree allows air to escape into the surrounding tissues. From this site, air may gain entrance into the pleural space through a tear in the pleura. It

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From the Department of Radiology, University of California Medical Center, and the San Francisco General Hospital.

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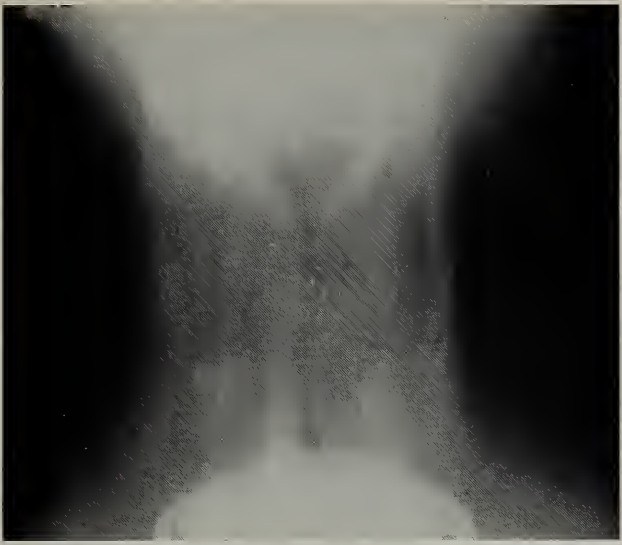

Figure 1.—(Case 1) Tomogram of the larynx three days after injury. The normal outline of the vocal cords is lost due to edema. Subglottic edema also narrows the airway.

may also extend deeper into the mediastinum or pass into the subcutaneous tissues of the neck and the remainder of the body. Macklin[12] produced this passage of air in reverse, experimentally, in alveolar rupture. The most characteristic and frequent roentgenologic finding, then, is extrabronchial and extrapulmonary air, recognized in the subcutaneous tissues, the mediastinum and the pleural cavity. The following cases demonstrate some of these changes in laryngeal, tracheal and bronchial trauma and illustrate that the same findings may be seen after tracheotomy and following rib fracture.

Injury to the Larynx

Any significant blow to the larynx will cause edema and consequent impairment of the airway. The resultant dyspnea and dysphonia will direct attention to this area. As the larynx is easily visible on direct examination, roentgenologic investigation will usually confirm, rather than diagnose, the primary injury.

Case 1. A 26-year-old man was ejected from an experimental sports car as it suddenly became airborne at 100 mph. At the emergency hospital three hours later, he was noted to have a scalp laceration, contusion and abrasion of the anterior neck, and hoarseness. Tracheostomy was done immediately. Tomography was performed three days after the tracheostomy (Figure 1). On direct laryngoscopic examination six days later, pronounced arytenoid edema with fixation of the right arytenoid and dislocation of the left arytenoid cartilage were seen.

Tomograms in this patient outlined edema of the glottis and the subglottic region, and showed narrowing of the airway. None of the normal landmarks was seen. Edema of the larynx alters the normal pattern of the true and false cords and of the intervening ventricle. These changes are usually outlined with air on plain frontal and lateral films of the larynx. Laryngography, using contrast medium, may further delineate them.

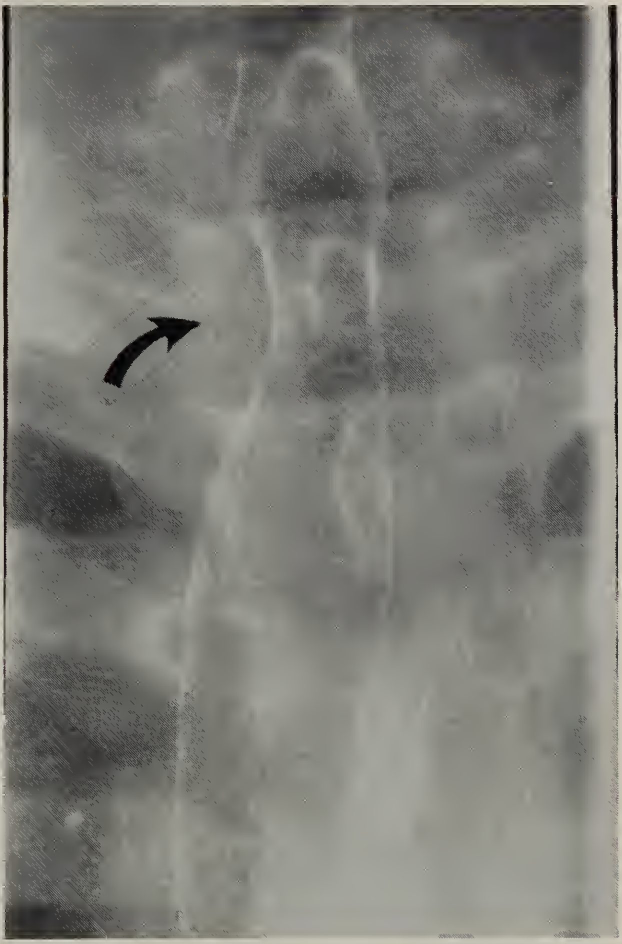

Figure 2.—(Case 2) The trachea was outlined with contrast medium instilled through a needle. Narrowing of the tracheal lumen is noted at the site of anastomosis (arrow) five weeks after operation.

Injury to the Trachea

Most tracheal tears result from direct penetration of the soft tissues, but about one-fifth of lacerations are caused by blunt trauma.[8,9,13,16] The tears are usually vertical and linear. Dyspnea is probable when edema or hemorrhage is present. Escape of air into the soft tissues leads to subcutaneous emphysema, which may spread rapidly to assume massive proportions. Experimental studies[8] have shown that as little as 5 cc of air, injected subcutaneously, can be detected roentgenologically. With a subcutaneous injection of 100 cc, the air spreads rapidly to cover an area estimated at 75 to 100 square centimeters. If rupture occurs intrathoracically, pneumomediastinum will also be seen.

Case 2. A 33-year-old man was unconscious when brought to the hospital after his car hit a lamp-post. Respiratory distress, paradoxical respiratory motion in the neck and a superficial neck laceration were noted. Laryngoscopy and intubation were unsuccessful. On tracheotomy, a complete transection of the trachea between the fifth and sixth

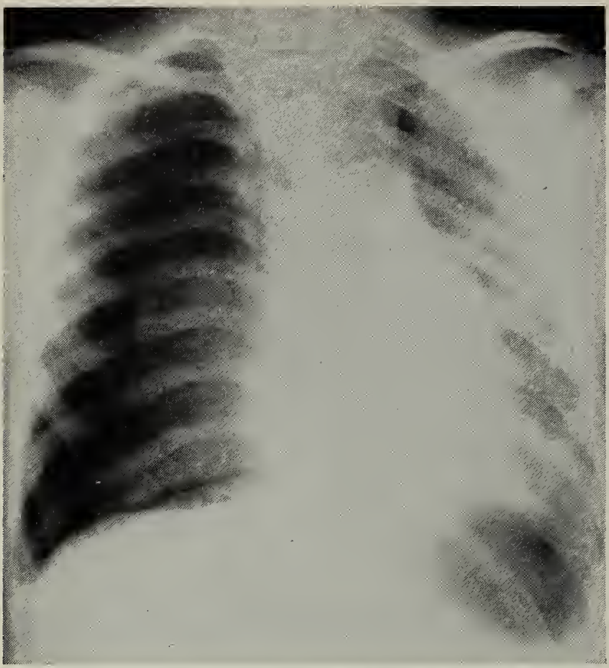

Figure 3.—(Case 3) Chest roentgenogram obtained one hour after injury. The right lung is partially collapsed. Tension pneumothorax has displaced the heart to the left. Edema of the left lung is present.

tracheal rings was noted. The left recurrent laryngeal nerve had been severed and the veins avulsed from the thyroid gland. Tracheostomy was done at that time, and re-anastomosis was performed three days later. Paralysis of the left vocal cord abductor was noted. A tracheogram was made five weeks later (Figure 2).

Subcutaneous emphysema and left pneumothorax were noted initially, the latter presumably the result of tear of the visceral pleura covering the mediastinum. No rib fractures were demonstrated. These findings, together with pneumomediastinum and density in the tracheal air column, secondary to edema, should be searched for in tracheal laceration. A transtracheal contrast study in this patient five weeks later showed narrowing of the trachea in the region of the anastomosis.

Injury to the Bronchi

Although bronchial rupture without penetrating wound would seem a remote possibility, ample documentation proves that this takes place frequently in major blunt trauma.* If not recognized and repaired initially, stenosis usually follows. Dyspnea may be of slight degree. The larger bronchi are usually involved but the large blood vessels are rarely torn; major injury to the adjacent lung is also uncommon with bronchial rupture.[10]

Case 3. A 7-year-old girl was struck by a slow-moving automobile. When first seen she was not unconscious, but labored respiration and shock were evident. Bleeding from the nose and mouth and blood-streaked sputum and pharyngeal mucus were noted. The breath sounds were decreased over the right hemithorax and this side was splinted during respiration. Bronchoscopy revealed what was initially thought to be a tear in the membranous portion of the right main-stem bronchus. On thoracotomy, the right upper and middle lobes were expanded; the lower lobe was atelectatic. The right pleural space contained 100 cc of blood and the pleura over the hilum was perforated in many areas. Complete transection of the right intermediate bronchus was present. The tear completely split the orifice of the middle-lobe bronchus and proceeded distally along this branch for 1 cm. The bronchus was re-anastomosed successfully. Cardiac arrest, which occurred during the procedure, was treated, but the patient died three days later with cerebral and pulmonary edema.

This patient did not have a rib fracture. Right tension pneumothorax was present. It responded to tube drainage (Figure 3). Initially, the right lung was considerably collapsed. Pneumomediastinum was not demonstrable roentgenologically.

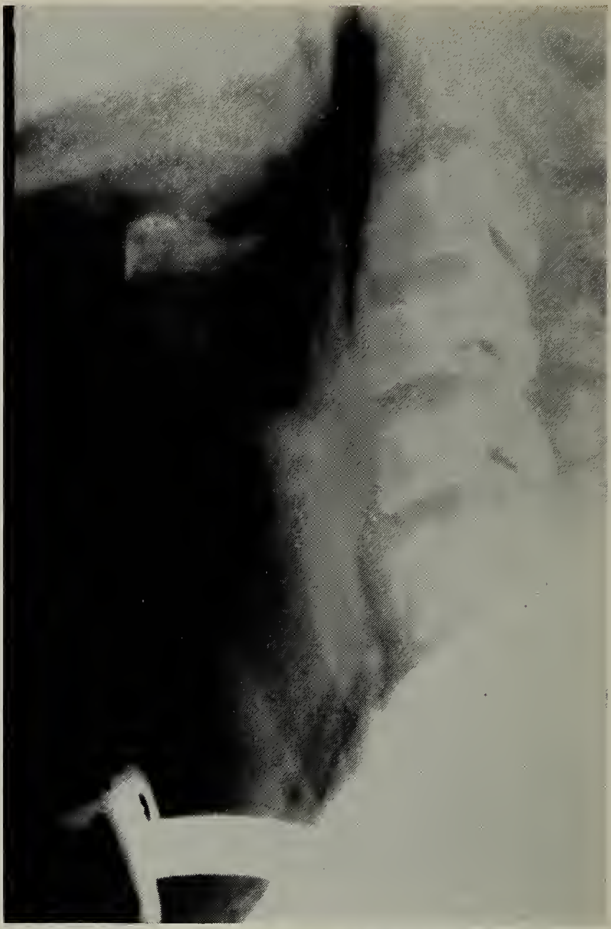

Figure 4.—(Case 4) Roentgenogram taken a few hours after tracheostomy shows extensive soft-tissue emphysema.

Abnormal roentgenologic findings in injury of this kind should be obvious but not pathognomonic. In patients more than 30 years of age, fracture of the upper ribs is the rule.[4] Pneumomediastinum should invariably be present but may be difficult to detect unless lateral and oblique views of the chest are available.[6] As air proceeds upward, subcutaneous emphysema is seen, as was noted in from 39 to 56 per cent of the cases reviewed. Pneumothorax will follow perforation of the pleura and was noted in two-thirds of the patients of one series.[9]

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*Reference Nos. 2, 4, 9, 10, 14, 18.

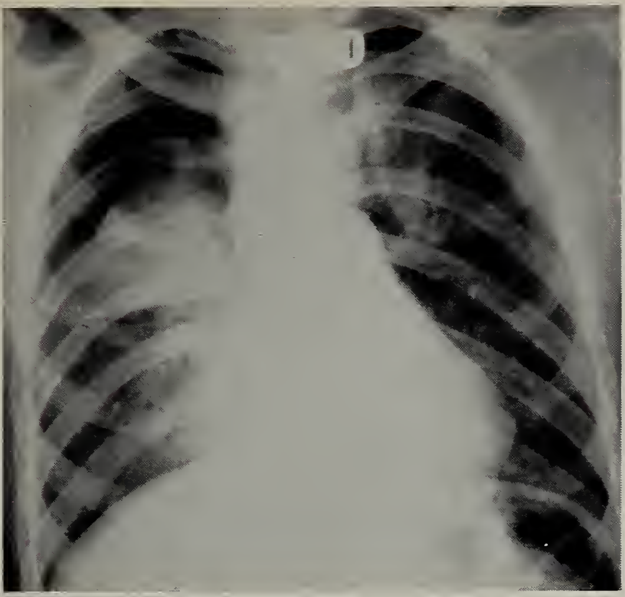


Figure 5.—(Case 4) Three days after tracheostomy, bilateral pneumothorax persists.

In other compilations, the incidence was given as 42 and 59 per cent.[2,10] The pneumothorax was of the tension type in almost 40 per cent.[9]

Emphysema in Rib Fracture and After Tracheostomy

The demonstration of subcutaneous or mediastinal emphysema or of pneumothorax is a warning sign of the possibility of respiratory tree laceration. Isolated rib fracture, however, is associated with subcutaneous emphysema in up to 26 per cent of patients.[5,15,17] In 13 per cent of these, pneumothorax accompanies the fracture, and in up to 36 per cent either pneumothorax or hemothorax or both are seen.[17] This is usually produced by alveolar rupture with dissection of air along the blood vessels, with or without a pleural tear, rather than by lung laceration by the rib.[12] Pneumothorax is more common in bronchial laceration than is subcutaneous emphysema, whereas in rib fractures the reverse is true. The differences are probably not sufficient to be of diagnostic value. Severe blunt trauma of the thorax resulted in rib fractures in 58 per cent of the patients in one series.[18]

The relation of time of the roentgen examination to that of tracheostomy in severe injury should also be considered. As is well known, subcutaneous air may be introduced when tracheostomy is done, as is illustrated by the next report.

Case 4. A 22-year-old man attempted suicide by hanging himself with his belt. When he was first seen at the emergency hospital, his face was cyanotic and an orange-white secretion had accumulated in the pharynx. Breathing was labored, with prominent use of the accessory respiratory muscles. No emphysema was noted before tracheostomy, but after the procedure the roentgenograms gave evidence of subcutaneous emphysema and pneumothorax (Figures 4 and 5). The patient was aphonic. The aphonia, pneumothorax, and pulmonary congestion responded to treatment, and on later laryngeal examination no abnormality was seen.

The previous case demonstrates that decided emphysema of the soft tissues and pneumothorax can occur after tracheostomy. In one series, reporting tracheostomy in 120 children younger than ten years, mediastinal emphysema was found after the operation in 41 per cent. All had been examined carefully for its presence. In these same patients, pneumothorax was present in 15 per cent and subcutaneous emphysema in about 35 per cent.[7] The authors expressed the belief that the increased inspiratory effort associated with dyspnea might have drawn atmospheric air into the wound. Other authors[6] reported that pneumomediastinum was due to tracheostomy in 20 per cent of patients with this radiological finding.

DISCUSSION

The preceding cases illustrate what the current literature documents well: severe injury to the trachea and bronchi is possible without associated penetrating wound of the chest. Since 1848, 167 patients with such injuries have been described in the literature. Of these, 106 were reported in the 12 years after 1948, indicating an increasing incidence or awareness of these injuries at that time. In any patient with upper rib fracture and associated subcutaneous, mediastinal, or pleural free air, tracheal and bronchial injury should be suspected. When rib cages are more elastic, as in patients less than 30 years of age, rib fractures may not be present.

Free air associated with rib fracture alone or with isolated alveolar rupture may occur in many cases without bronchial rupture. However, if rupture is present, only a high suspicion of the possibility of the more serious injury can avert progression to the late stenotic changes. Both subcutaneous emphysema and the more frequent pneumothorax are common in ruptured bronchus. In rib fracture, although both complications occur less often, the more common subcutaneous emphysema may be present in as many as one case in four. In general, if pneumothorax, especially of the tension type, is present, rupture of the bronchus should be strongly considered before attributing the cause to rib cage trauma alone.

Department of Radiology, University of California Medical Center, San Francisco, California 94122.

REFERENCES

1. Arenberg, H.: Traumatic heart disease; clinical study of 250 cases of non-penetrating chest injuries and their relation to cardiac disability, Ann. Int. Med., 19:326, Aug. 1943.

2. Bishop, C. O., Miller, A. C., and Burch, B. H.: Fracture of the bronchial tree following blunt chest trauma, Western J. Surg., 68:345, Nov.-Dec. 1960.

3. Bright, E. F., and Beck, C. S.: Nonpenetrating wounds of heart; clinical and experimental study, Am. Heart J., 10:293, Feb. 1935.

4. Burke, J. F.: Early diagnosis of traumatic rupture of the bronchus, J.A.M.A., 181:682, Aug. 25, 1962.

5. Cameron, D. A., O'Rourke, P. V., and Burt, C. W.: Analysis of management and complications of multiple (3 or more) rib fractures, Am. J. Surg., 78:668, Nov. 1949.

6. Evans, J. A., and Smalldon, T. R.: Mediastinal emphysema, Am. J. Roentgenol., 64:375, Sept. 1950.

7. Forbes, G. B., Salmon, G. W., and Herweg, J. C.: Further observations on post-tracheotomy, mediastinal emphysema, and pneumothorax, J. Pediat., 31:172, Aug. 1947.

8. Gray, A. R., Howard, J. M., Harrison, W. H., Jr., and Couves, C. M.: Injuries of the trachea, A.M.A. Arch. Surg., 76:138, Jan. 1958.

9. Hood, R. M., and Sloan, H. E.: Injuries of the trachea and major bronchi, J. Thor. Cardiov. Surg., 38:458, Oct. 1959.

10. Kinsella, T. J., and Johnsrud, L. W.: Traumatic rupture of bronchus, J. Thoracic Surg., 16:571, Oct. 1947.

11. Knoepp, L. F.: Fractures of the ribs; review of 386 cases, Am. J. Surg., 52:405, June, 1941.

12. Macklin, C. C.: Transport of air along sheaths of pulmonic blood vessels from alveoli to mediastinum; clinical implications, Arch. Int. Med., 64:913, Nov. 1939.

13. Nach, R. L., and Rothman, M.: Injuries of larynx and trachea, Surg. Gynec. & Obst., 76:614, May, 1943.

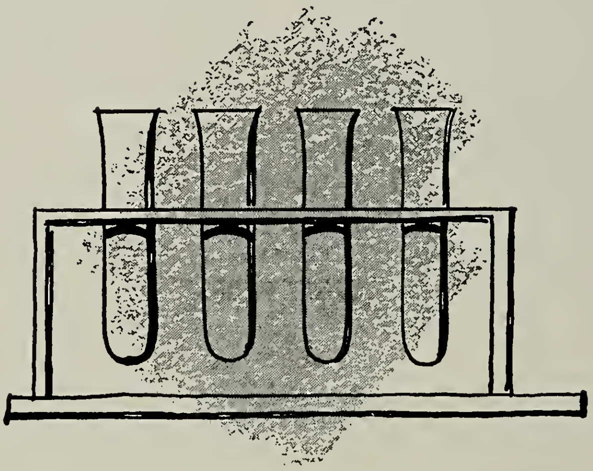
14. Norlin, U. A. T.: Traumatic rupture of the main bronchi, Acta radiol., 43:305, April, 1955.

15. Rapport, R. L., Allen, R. B., and Curry, G. J.: Fractured rib—significant injury; analysis of 730 consecutive cases, A.M.A. Arch. Surg., 71:7, July, 1955.

16. Shaw, R. R., Paulson, D. L., Kee, J. L., Jr.: Traumatic tracheal rupture, J. Thor. Cardiov. Surg., 42:281, Sept. 1961.

17. Westermark, N.: Roentgenological investigation into traumatic lung changes arisen through blunt violence to thorax, Acta radiol., 22:331, 1941.

18. Williams, J. R., and Bonte, F. J.: The Roentgenological Aspect of Non-Penetrating Chest Injuries, Charles C. Thomas, Springfield, 1961.



Acute and Chronic Effects of Glue Sniffing

MARTIN L. BARMAN, *M.D.*, NORMAN B. SIGEL, *M.D.*,
DONN B. BEEDLE, *M.A.*, and ROGER K. LARSON, *M.D.*, Fresno

• Fifteen boys who were habitual sniffers of the kind of glue used for assembling model airplanes were investigated in regard to the acute and chronic toxicity of the substances in the glue. The acute effects of airplane glue were measured by serial psychometric testing in eight subjects and a transitory visual motor disturbance was found. In one case there was elevated spinal fluid pressure due to intoxication with the inhaled substance. No chronic renal, hematologic or hepatic changes were observed.

AMONG CHILDREN, glue sniffing is a comparatively new fad which consists of the inhalation of the vapors from quick-drying glue of the kind used in assembling model airplanes. This is done by placing the glue in a paper bag or cloth and inhaling the vapors. Inhalation of the volatile components of airplane glue or plastic cement results in a syndrome resembling acute alcoholic intoxication.[4,6] The exact amount needed for inebriation has not been determined, but apparently is small.[2] Several recent reports reveal that this practice is widespread in the United States.[2-4]

The exact content of different model airplane cements on the market varies, but the effects appear to be similar. Table 1 lists the contents of several glues that are sold in California.[3]

Toxicology

Tricresyl phosphate, a component of some model-airplane glues, was used in illegal liquor during the days of prohibition. It causes so-called "ginger paralysis," a unique polyneuritis with flaccid motor paralysis but no sensory disturbances. Tricresyl phosphate can block cholinesterase and act like an organic phosphate poison.[3] It affects the peripheral nerves, the pyramidal tracts and spinocerebellar tracts of the central nervous system.[8]

Xylene and toluene are aromatic hydrocarbons. Both cause bronchial and laryngeal irritation on vapor inhalation. Although xylene and toluene resemble benzene in acute toxicity, they appear to have less chronic toxic potential.[9] Blood dyscrasias have been reported in toluene poisoning.[3,8] Xylene has not been associated with blood dyscrasia. Both solvents cause central nervous system depression, but the effect of xylene is more delayed and prolonged. Toluene causes conjunctivitis, headache, lassitude, loss of appetite and inebriation.[3] Wolf and co-workers, in 1958, found that repeated inhalation of the fumes of vinyl toluene by animals caused histopathologic changes in the liver characterized by fatty degeneration in the midzonal and central cells of the lobule.[9]

Toluene may produce mild macrocytic anemia, but it does not cause leukopenia as benzene does.[3] Butyl and isopropyl alcohols are central nervous system depressants. Isopropyl alcohol can also cause hepatic or renal damage.[3] Vapors of isopropyl alcohol may produce rhinitis and bronchitis. The vapors of butyl alcohol can result in a fine punctate turbidity of the cornea.[8]

Acetone is a ketone which has effects similar to ethyl alcohol but has greater anesthetic properties. Twenty milliliters of acetone can be ingested without ill effect.[3] Hexane is a mild central nervous system depressant. Vapor of hexane causes anesthesia of short duration without ill sequela.[3]

Clinical Study

Because of the serious toxic potential of the ingredients of model-airplane glue, the acute and chronic effects of glue sniffing were studied in 15 boys ranging in age from 13 to 18 years. In most of these cases the miscreant's practice came to light

TABLE 1.—*Ingredients of Some Airplane Glues Available in California*

Testors Model Cement Formula A	
Cellulose acetate	Acetone*
Tricresyl phosphate*	
Testors Formula B	
Cellulose nitrate	Acetone*
Tricresyl phosphate*	Butyl acetate
Hexane*	Butyl alcohol*
Isopropyl alcohol	Toluol*
Isopropyl acetate	
Revel	
80 per cent toluene*	

*Indicates toxic product.

From the Department of Medicine, General Hospital of Fresno County, Fresno.
Submitted May 14, 1963.

TABLE 2.—*Hematological Findings in 15 Patients Who Sniffed Airplane Glue*

Case	PCV (Per Cent)	Leukocyte (Per cu mm)	Reticulocyte	WBC Differential					
				Eosinophiles	Stabs	Segmented	Normal Lymphocytes	Monocytes	Basophiles
1	43.5	6,526	....	2	3	62	32	1	0
2	43.0	5,569	....	1	2	71	25	1	0
3	45.0	8,960	0.9	2	1	66	30	0	1
4	45.0	6,997	1.2	0	7	54	30	4	0
5	44.0	6,114	....	0	5	51	42	2	0
6	45.5	5,301	....	1	1	56	36	5	1
7	39.0	5,202	....	4	1	44	46	5	0
8	45.0	7,389	....	2	2	70	22	4	0
9	41.0	5,765	....	0	0	46	40	13	1
10	41.5	5,577	4.3	3	0	71	22	3	1
11	39.0	7,130	2.8	3	1	75	20	1	0
12	44.0	7,267	0.8	1	0	62	37	0	0
13	44.0	10,495	1.4	3	0	71	17	8	1
14	42.0	8,991	1.3	3	1	44	45	7	0
15	....	5,300	0.9	1	2	57	39	1	0

Abbreviations: PCV=packed cell volume.

TABLE 3.—*Liver Function Tests in 15 Patients Who Sniffed Airplane Glue*

Case	BSP* (Per Cent)	SGPT†	Bilirubin**		Alk. Phosphatase‡		Ceph. Flocc.	Serum§	
			Direct	Indirect	Initial	Last	24 Hr. 48 Hr.	Alb.	Globulin
1	....	....	0.0	0.5	....	....	....	5.5	2.1
2	1.4	....	0.1	0.3	7.0	5.3	Neg./Neg.	4.5	1.7
3	2.4	13	0.1	0.7	4.2	4.0	....	5.4	1.3
4	1.5	8	0.1	1.0	6.1	5.4	....	5.4	2.5
5	....	....	0.2	0.8	5.8	4.6	....	5.3	1.9
6	....	....	0.0	1.4	5.4	5.8	Neg./Neg.	5.1	1.8
7	....	....	0.0	1.5	6.3	....	Neg./1+	5.5	1.9
8	3.0	....	0.0	0.4	2.8	....	Neg./Neg.	....	....
9	....	....	0.0	0.9	5.8	5.9	Neg./Neg.	5.3	1.6
10	....	....	0.0	0.7	8.3	7.5	Neg./Neg.	5.5	2.2
11	....	....	0.1	0.4	4.3	....	Neg./Neg.	5.3	2.2
12	....	12	0.2	0.2	3.7	....	2+/2+	5.0	2.5
13	1.5	11	0.0	1.3	....	....	....	....	....
14	....	23	0.2	0.2	....	....	1+/2+	5.1	2.6
15	0.0	....	....	....	2.5	....	....	....	....

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*Bromsulphthalein dye was given intravenously in the dose of .045 ml per pound of body weight and the test specimen was taken 45 minutes later.

**Milligram per cent.

†Serum glutamic-pyruvic transaminase (normal 5 to 40 units).

‡Bessey-Lowry units (*adult* normal .8-2.3 units).

§Gram per cent.

through law enforcement authorities, and several of the boys admitted stealing glue to keep themselves supplied. The boys referred by the juvenile authorities were also seen by a certified psychologist. Although no accurate estimate of the duration or quantity of glue used could be determined, as our patients tended to minimize their usage, many were known by the juvenile authorities to inhale extremely large amounts of glue.

Acute Toxicity

Eight patients in the series were interviewed in juvenile hall. They stated they inhaled glue "for kicks," or because "it made things become quiet around them." The intelligence quotient of these eight boys ranged from 103 to 79, the average being 91. These patients were apprehended while in the act of inhaling the vapors from airplane glue. Within three hours of admittance to juvenile hall the Bender Visual Motor Gestalt Test[1] was given. The identical test was readministered no sooner than seven days later to the same patients. The testing plan was made as unobtrusive as possible. Since the experimental design was to compare the initial test results with the second test results of the same subject, a simple scoring method was employed.[7] The total score of each test was the total number of deviations from normal. The deviations were gross in nature and obvious to any trained clinician. The total of deviations of all eight subjects on the initial examinations was 92, while the total of deviations on the second tests was 56. A comparison of the two examinations on each subject showed a reduction of deviation in six of the eight cases. There was no change in the number of deviations in two patients, one of whom had a

TABLE 4.—*Renal Functions Investigations in 15 Patients Who Sniffed Airplane Glue*

	Urine							
Case	Specific Gravity	Albumin	Glucose	Erythrocytes (Per high power field)	Leukocytes (Per high power field)	Casts	BUN*	PSP† Excreted (Per Cent)
1	1.021	0	0	0	Occasional	0	....	100
2	1.021	0	0	0	0-2	0	....	75
3	1.021	0	0	0	0	0	15	85
4	1.019	Trace	0	0	0-2	0	14	85
5	1.010	0	0	0	0	0	....	75
6	1.015	0	0	0	Occasional	0	....	95
7	1.021	0	0	0	0	0	....	85
8	1.016	0	0	0	0	0	14	85
9	1.022	0	0	0	Occasional	0	....	97
10	1.024	0	0	0	0	0	....	90
11	1.022	0	0	0	0	0	....	95
12	1.025	0	0	0	Occasional	0	13	100
13	1.021	0	0	0	2-3	0	14	....
14	1.020	0	0	0	Occasional	0	10	73
15	1.023	0	0	0	0	0	6	....

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*Blood urea nitrogen milligrams per 100 ml.
†Phenolsulfonphthalein per cent of dye excreted in two hours.

TABLE 5.—*Results of Lumbar Punctures in Two Cases of Glue Sniffing. (See text)*

	Pressure (Water)		Spinal Fluid					
Case	Opening	Closing	WBC	Protein (mg per 100 ml)	Sugar (mg per 100 ml)	Colloidal Gold	Chloride (mEq per liter)	Date
2	170mm	130mm	0	26.3	105	+ +11000000	......	2/13/62
8a	298mm	240mm	0	23.8	86	+12221+000	115	1/2/62
8b	172mm	....	2	25.4	61	......	......	1/9/62
8c	126mm	106mm	0	19.8	64	......	115	2/7/62

diagnosis of epilepsy and the other an intelligence quotient of 79. In spite of obvious testing inadequacies, it was felt that inhalation of airplane glue caused a definite visual motor distortion of transitory nature characteristic of acute central nervous system intoxication.

The case of one boy illustrates the confusing manifestations of the acute toxicity to glue sniffing:

REPORT OF A CASE

A 16-year-old Caucasian boy (Case 8, Tables 2, 3, 4, 5) was first seen January 2, 1962, because of pronounced disturbance in behavior. Over a six-month period, the parents noted a decline in his performance at school, reduction of physical activity and mental depression. He cried frequently without apparent cause, and on one occasion he was found in bed screaming incoherently. Twice he had made suicidal gestures by cutting his wrists and face. The boy was unable to give any pertinent information in explanation of his behavior. He denied any neurological symptoms and did not divulge his clandestine habit of inhaling airplane glue.

Blood pressure was 92/50 mm of mercury and the pulse was regular at 50. The pupils were unequal but reacted to light and accommodation. First the right and then the left pupil was larger in size. Results of the rest of the physical examination, including a thorough neurological examination, were within normal limits, as were results of renal, hematological and hepatic studies. (See Tables 2, 3, and 4.) No abnormalities were noted in x-ray films of the head. A lumbar puncture was done and the fluid pressure was 298 mm of water. At this time, the diagnosis of brain tumor was strongly entertained. (See Table 5 for complete results of lumbar punctures.) By accident, however, it was learned that the boy had been inhaling a large amount of glue for six to eight months. There was no history of the patient using other solvents, narcotics or toxic substances. After seven days in the hospital and abstinence from the use of glue, lumbar puncture was repeated and the spinal fluid pressure was 172 mm of water. At that time, the patient's behavior had returned to normal and his pupils were equal in size. On February 7, 1962, lumbar puncture was carried out and the pressure was 126 mm of water. The patient was observed thereafter as an outpatient and his behavior and school work returned to normal.

This case describes a new entity in addition to the many others that must be considered in patients with increased spinal fluid pressure. The mechanism is probably cerebral edema resulting from the absorption of the toxic materials in glue. From the recent literature and the series of cases we observed, it is evident that the contents of airplane glue or similar solvents can cause acute neuropsychological changes which are reversible.[2,3,4,5,6,9]

Chronic Toxicity

Even though model-airplane glues contain several potentially toxic substances which could cause renal, hepatic or hematological damage, no definite reports of such damage have appeared in the medical literature. Done[4] reported abnormal urine in several boys, but these patients had been using other solvents and gasoline. In none of the patients in the present series was there medical history of abnormality, except for the inhalation of airplane glue, and the results of physical examination were within normal limits. With the exception of the patient in the case described, none of the boys had abnormal neurological findings. Hepatomegaly and splenomegaly were not found.

Extensive laboratory tests to investigate the possibility of asymptomatic renal, hematologic or hepatic damage were carried out in all cases in the series. The results are shown in Tables 2, 3, 4 and 5.

Because of the potential renal toxicity of glue and the report[4] of finding cells, casts and protein in the urine of boys using glue, we investigated renal functions in the present series. Routine urinalysis, determination of blood urea nitrogen, and phenolsulfonphthalein excretion tests were carried out on all patients, and the results (Table 4) gave no indication of renal damage.

A complete blood cell count and reticulocyte count were used in the comprehensive hematological survey. The results (Table 2) excluded any serious bone marrow depression.

The investigation of hepatic function was done in detail, using serum proteins, cephalin flocculation, alkaline phosphatase, bilirubin fractionation, serum glutamic-pyruvic-transaminase levels, and bromsulphthalein excretion tests. The results of all of these tests were within normal limits. As the alkaline phosphatase levels were borderline, determinations were repeated a month later (Table 3). Since there was no significant difference between the results, the levels were considered normal for adolescent boys.[10]

Because of the potentially toxic substances present in model-airplane glue and similar products, we believe that some systemic damage might occur with prolonged usage. The solvents and volatile materials in the glue have been shown to produce hepatic, renal and hematologic changes in industrial use and in laboratory animals.[3,8] It seems probable that the low concentration of these substances is the reason no systemic damage was revealed in the present series of cases. No one has determined what concentrations of toxic materials the person receives when sniffing glue.

Fresno County General Hospital, 445 South Cedar Avenue, Fresno, California 93702 (Barman).

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REFERENCES

1. Bender, L.: A Visual Motor Gestalt Test and Its Clinical Use. Research Monographs. No. 3, American Orthopsychiatric Association, 1938.

2. Glazer, H. H., and Massengale, O. N.: Glue sniffing in children, J.A.M.A., 181:300, July 28, 1962.

3. Gleason, M. N., Gossehn, R. E., and Hodge, H. C.: Clinical Toxicology of Commercial Products, The Williams and Wilkins Company, 1957.

4. Glue Sniffing, National Clearinghouse for Poison Control Centers, U. S. Department of Health, Education, and Welfare, Public Health Service Bulletin, Feb.-March, 1962.

5. Jacobziner, H.: Accidental chemical poisonings, N. Y. State J. Med., 62:3294, Oct. 15, 1962.

6. Merry, J., Zachariadis, N.: Addiction to glue sniffing, Brit. Med. J., 2:1448, Dec. 1, 1962.

7. Pascal, G. R., and Suttell, B.: The Bender Gestalt Test. Grune and Stratton, New York, 1951.

8. Von Oettingen, W. F.: Poisoning—A Guide to Clinical Diagnosis and Treatment, W. B. Saunders, 1958.

9. Wolf, M. A., Rowe, V. K., McCollister, D. D., Hollingsworth, R. L., and Oyen, F.: Toxicological studies of certain alkylated benzenes and benzene, Arch. Ind. Health, 14:387, Oct. 1956.

10. Wolman, I. J.: Laboratory Applications in Clinical Pediatrics, 1957, McGraw-Hill, p. 550.

Non-Medical Needs of Cancer Patients

JAMES C. DOYLE, *M.D.*, Beverly Hills and
EUGENE G. MILLER, *M.D., M.P.H.*, San Francisco

Physicians long have recognized that often patients with cancer are beset with personal emotional, physical, familial and informational difficulties that in one way or another prevent their getting the optimal treatment for their disease.

One of the duties that the county units of the American Cancer Society have taken upon themselves is helping patients with cancer to overcome those barriers. The tasks that these units set for themselves and the programs they followed in carrying out this duty were arrived at empirically and there were wide variations between counties. No two service programs were alike. Moreover, some programs even within a county varied from one time to the next. For example, if money was available, drugs were provided for those in need; if budgets were exhausted, requests had to be refused. Such irregularities caused hardship, misunderstanding and ill-will. Since the lack of uniformity indicated that the needs to be served were not precisely known, a study was undertaken to determine what the needs were, within the area of service of the 41 county units of the California Division.

Beginning in 1959, a survey was planned and carried out by the state division of the Cancer Society with the Cancer Commission of the California Medical Association acting in an advisory capacity. In the meantime, pending completion of the study, all the 41 branches of the California Division agreed to carry out a basic four-point program of services that would include, as needed: Information and referral, free dressings, transportation for treatment, and provision of "loan closet" items.

An ad hoc committee that was created to organize the study decided to go directly to physicians, patients and relatives for information. After considerable planning, a full-time research director was employed in 1959. Data were obtained on patients who had been in hospital for cancer in any of eight designated hospitals in five California communities at any time between January, 1956, and December, 1959. Information was gathered through interviews with physicians, patients and relatives of patients between April, 1960, and May, 1961. Additional data were obtained from hospital records. Only patients who had been alive at the time of the last Cancer Registry Follow-up Report were selected. All the hospitals in the survey, except one rural hospital, had cancer programs approved by the American College of Surgeons and California Medical Association. Both voluntary and county (public) hospitals were included.

As originally set up, the study was to comprise a total of 960 patients, made up of 120 from each of the eight hospitals. They were to be taken at random, except that half were to be males and half females. However, the one rural area did not have 120 cancer patients in the time period, and there were an additional few who could not be located or for whom permission to interview was not granted by the physician. Hence the number of patients embraced by the study was 876.

Excluded from the survey were patients who had died before a first annual follow-up could be made on them. Information on other patients who had died but were included in the survey was obtained from the attending physicians and relatives.

As to the site of cancer, the distribution in the patients included in this study was fairly comparable with the distribution among cancer patients in general as shown by the California State Tumor Registry.

Much of the study is based upon the opinions and observations of physicians, patients and relatives. As such, the data are dependent upon the respondent's knowledge and perception of the patient's situation, and upon memory — sometimes over a four-year period. For example, recollection of details concerning financial problems were of doubtful validity. Non-response was also a factor to be considered in the evaluation of the data.

GENERAL CHARACTERISTICS OF STUDY MATERIAL

Persons 65 years of age and over made up 50 per cent of the total sample. The average number of years of schooling for the total sample (9.2 years) was almost three years short of the statewide

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Dr. Doyle is President-Elect of the California Medical Association. He is a former member of the Commission on Cancer and a former chairman of the Committee on New and Unproved Methods of Cancer Treatment.

Dr. Miller was medical and scientific director of the California Division of the American Cancer Society at the time this paper was presented.

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TABLE 1. — *Was Recommended Medical Plan Carried out by Patient? (as reported by relatives and patients)*

	Persons Interviewed			
	Relatives*		Patients	
	Number	Per Cent	Number	Per Cent
Cases on which interviews were obtained	627	100	494	100
Patient carried out plan	501	80	427	86
Patient did not carry out plan	82	13	54	11
Unknown or no response	44	7	13	3

*Relative interviews include those on both living and deceased patients.

TABLE 2. — *Types of Deterrents to Patients' Carrying out Medical Plan (as reported by physicians)*

Deterrents Reported	Number	Per Cent
Total cases on which physician interviews obtained	838	100
Number with no deterrents reported, with insufficient information and no response	641	76
Number with specific deterrents	197*	24

*Some patients had more than one deterrent.

TABLE 3. — *Nature of Deterrents to Carrying out Program of Treatment*

	Incidence	
	Number	Per Cent
Cases with one or more deterrents reported	197*	100
Emotional problems of patient	110	56
Financial and related barriers	43	22
Educational barriers	30	15
Language barriers	29	15
Lack of mobility or transportation	29	15
Emotional problems of family	28	14
Folk beliefs and cultural sanctions	28	14

*More than one deterrent reported in some cases.

average of 12.1 years as of 1960. (It should be recalled that opportunities for education were considerably less during the early part of the century, when most of the patients were of school age.) Housewives and retired persons made up 65 per cent of the sample at the time of interview or death of the patient. The voluntary hospital sample contained a higher proportion of professional, managerial, clerical and skilled occupations than did the county hospital sample. Both samples contained relatively low proportions of semi-skilled workers, laborers and farmers.

FOLLOW-THROUGH ON RECOMMENDED TREATMENT

One out of eight of the patients studied was reported by himself or by relatives as having failed to carry through the treatment plan recommended by physicians (Table 1).

One in four patients was reported by physicians to have had one or more deterrents to following-through on the treatment plan (Table 2).

Numerically greatest among the deterrents reported by physicians were emotional factors related to the illness. Other causes of failure to carry out treatment as prescribed were cultural, financial and related factors; lack of adequate transportation; and prepossessing responsibilities within the home (Table 3).

A significantly large proportion of patients with a diagnosis of cancer evidenced unwillingness or inability to follow the recommended treatment plan. This does not mean the plan was not completed entirely, but that delay occurred or that one or more items of the plan were not done. The shortcoming might include failure to return for a follow-up visit, or failure to complete recommended rehabilitation, or the like. Causes contributing to this deficiency involved both personal and external factors (Table 4), which suggests a need for greater understanding of the emotional and environmental factors of a kind that might affect the patient's decision to initiate or complete the recommended plan of treatment.

PROBLEMS RELATED TO HOSPITALIZATION

Of the patients who were interviewed or for whom relatives recalled any type of problem in connection with cancer, one-third (34 per cent) were reported to have had problems before they entered a hospital. Three out of five (61 per cent) were reported to have had problems after leaving a hospital. Besides emotional problems related to the illness, finances, job and household responsibilities, pain, physical limitations and nursing home care were among the concerns of the patients. This may be taken as pointing a need for early consideration of these non-medical problems from the time of recognition of the illness through the post-hospital phase.

TABLE 4. — *Reasons for Failure to Carry out Treatment Plan as Prescribed*

	Information from			
	Relatives*		Patients	
	Number	Per Cent	Number	Per Cent
Patient did not carry out plan	82	100%	54	100%
Reason:				
Attitude toward illness or medical care†	52	63	35	65
Financial and related problems	12	15	8	15
Other illness in home or other family responsibilities	12	15	6	11
Treatment resources not available	3	4	1	2
Other	3	4	1	2

*Interviews include relatives of both living and deceased patients.

†Fear of hospitals, resistance to operation or other treatment, refusal to accept diagnosis, etc.

WORK TIME LOST; INCOME AND OCCUPATIONAL CHANGES

Of the 219 patients in the total sample for whom information on work time lost was reported, 110 (50 per cent) lost three months or more. Voluntary hospital patients lost a median of ten weeks; county hospital patients lost 29 weeks. Thus, in addition to direct financial costs for the illness, loss of earnings, not offset by disability insurance or other benefits, adds to the problem of the cancer patient. However, slightly more than half the patients in the study had no change in household income after they were discharged from hospital.

Patients with cancer usually had other chronic conditions associated with this illness (Table 5). It was reported that 50 per cent of the patients for whom information was secured had two or more chronic conditions in addition to cancer. The incidence of such conditions was higher in the county hospital patients (60 per cent) than in patients treated in voluntary hospitals (41 per cent).

The number of patients with two or more chronic conditions increased sharply in the 65 year and over age brackets, both in the voluntary hospital and the county hospital groups. This evidence about the extent of chronic illness is consistent with that reported for similar age groups in the general population, which suggests that adequate solutions to service needs require joint planning and action by the private and the public agencies concerned.

TABLE 5. — *Incidence of Chronic Illnesses in Addition to Cancer in 820 Patients for Whom Information Was Obtained*

	Totals	
	Number	Per Cent
Chronic Conditions		
None	220	27
One	192	23
Two or more	408	50

TABLE 6. — *Limitations on Usual Activity as Reported for 783 Patients with Cancer on Whom Information Was Obtained*

	Number	Per Cent
No limitation	417	53
Some limitation*	241	31
Major limitation†	125	16

*Some — Can carry on usual activity, but must cut down on amount and kind.

†Major — Cannot carry on usual activity.

LIMITATIONS ON USUAL ACTIVITY

Major limitations on usual activity were reported for 16 per cent of the patients studied, and lesser limitations for another 31 per cent (Table 6). As might be expected, the information reported for the deceased patients showed that before they died a greater proportion of this group had such limitations. Patients living alone showed no significant differences in activity limitations from those living with family or friends. Limitation was attributed to cancer, before and after hospitalization, for 73 per cent of those who had limitation; for the remaining 27 per cent it was attributed to other illness.

Mobility limitations were reported for 34 per cent of the patients, and were almost twice as high in the county hospital as in the voluntary hospital group — 45 per cent against 25 per cent. The extent of reported limitation of activity and mobility appears to confirm the need for such specific services as transportation, recreation at home,* provision of sickroom equipment, nursing care at home, household assistance or child care, and other aids.

LIVING ARRANGEMENTS

For 88 per cent of all patients, illness did not bring about a need for change in living arrangements. Such a change was necessary, however, for 18 per cent of the patients in the county hospital group, which included a higher proportion of older

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**Recreation at home* was perhaps an unfortunate choice of words here. Certainly, we do not mean a game of checkers or a free TV set, but some purposeful diversionary activity that could contribute to the morale and recovery of the patient. For example, a person formerly interested in painting or reading would be assisted in resuming such activities; or interest might be created in new hobbies, such as gardening or collecting stamps.

patients who were living alone and could not return home unattended. In the voluntary hospital group, in which there was a larger proportion of patients living with spouse or with relatives or friends, only six per cent required a change in living arrangements.

SERVICE REQUIREMENTS

Respondents, although differing in their perceptions of patients' needs for services of the kind supplied by Cancer Society units, manifested general agreement as to the need for these services.

Data on the services required and obtained are given in Table 7. The need for discussion of personal or family problems was reported to be a service which was often required but was obtained mainly from family and personal resources. Community resources for discussing and assisting with the resolution of personal and family problems related to cancer were either not available or were not used by a substantial number of patients. Certainly, family and friends must be the major resource for discussion, but the survey did discover situations in which counseling of this kind was not available, or where the problems were such as to require more sophisticated solutions than could be obtained from family and friends.

SOURCES THROUGH WHICH SERVICES WERE OBTAINED

Many of the services listed as needed were secured through the patient's own resources or through those of his family or friends. Few services were obtained through tax-supported governmental or community resources. The participation of public agencies was highest in providing nursing home care, financial aid, dressings, drugs, appliances and prosthetic devices. In these categories of service, voluntary agency participation was negligible. But such agencies did participate to a greater extent in discussion of problems and in providing nursing care at home, household assistance, sickroom equipment and information concerning community resources. Transportation and "recreation at home" were reported as services in which voluntary and public agencies gave negligible service.

TABLE 7. — *Services Reported as Required and Obtained by Patients with Cancer (from data on 697 cases)*

	Patients	
	Number	Per Cent
Drugs	581	83
Discussion of personal or family problems	541	78
Transportation	508	73
Material for dressings	318	46
Nursing care at home	307	44
Household assistance	254	36
Recreation at home	239	34
Financial aid	83	12
Information on community resources	47	7
Appliances and prosthetic devices	106	15
Sickroom equipment	79	11
Nursing home care	77	11
Child care	76	11
Physical therapy	56	8

DISCUSSION OF RESULTS

Certainly, few of the findings of this survey were new or surprising to any practicing physician. However, it is equally true that the results of the survey give authority and surer direction to service programs that heretofore lacked certainty and uniformity. The results are now being used to chart the service programs of units of the California Division.

Conclusions from the survey and acting principles that were drawn from them were: (1) The nonmedical needs of cancer patients in California are being met quite well, but some specific problems require study and solution. (2) The basic four-point program of the California Division is meeting real needs and should be continued. Any additions will be made only after careful experimentation in selected counties. (3) A specific project of further study with a county medical society or hospital will be planned, to ascertain where and how early planning with patients can lessen problems of placement, rehabilitation and negative emotional reactions.

9730 Wilshire Boulevard, Beverly Hills, California 90212 (Doyle).

The Role of the General Practitioner In the Care of Cancer Patients

BURT L. DAVIS, M.D., Palo Alto

THE RAPID EXPANSION of our comprehension of the life process and, in particular, of aberrations in cellular development has caused continuous changes in the professional relationships involved in the care of patients with cancer. Cancer differs from other diseases in the universality of its manifestations. Every organ system, every organ, every type of tissue may be affected by malignant neoplastic change. It follows, then, that every physician regardless of specialty or particular interest, is confronted by the problems of the cancer patient.

The increased compartmentation of knowledge and the development of specialized skills has emphasized the need for a coordinated attack in the solution of these cases. A few years ago there was a divisive trend leading toward over-specialization. This tended to compound the needs of the patient; and, rather than increasing his ability to understand his case, it caused him to become perplexed and to despair. Recent developments in medical school curricula have recognized this fact and have been designed to encompass the whole patient, who is certainly much more than the sum of his parts. There is, then, an obvious need for physicians in general practice, who realize the total impact of the tumor upon the whole patient, to be active in this field.

This concept requires a much broader perspective than a statistical approach appraising the effects of various physical, chemical or surgical applications upon masses of neoplastic tissue derived from different germinal layers and growing in the several organs. It is the duty of the personal physician to correlate the various medical disciplines with the patient, his environment, his family and their problems—economic, social and domestic, as well as medical. This physician must interpret the neoplastic process, and the corrective measures which are being taken, to the patient and his family in terms that they can understand. This is a part of the art of medicine, in contrast with the science of medicine which can be expressed mathematically and objectively.

The quality of medical care has come in for a great deal of discussion in recent years. Physicians, patients and third parties such as insurance plans, employers and labor unions have become increasingly interested, and properly so, in the subject.

Measuring quality is a difficult procedure. The science of medicine is subject to quantitative measurement. The art of medicine, as with any other form of art, is only measurable as an individual appraisal in the eye of the beholder. It is in this field that the personal physician is called upon to apply his greatest talent. It is here that all of the scientific knowledge pertaining to the case is applied. The patient who refuses to follow suggested treatment, who ignores the best and latest scientific advice, might just as well have seen a quack in the first place.

The Cancer Commission of the California Medical Association, together with the California Division of the American Cancer Society, undertook an extensive study of the needs of cancer patients in California. Among the most startling bits of information derived from the study was the fact that, according to the family members interviewed, one out of eight patients did not follow out the course of treatment advised for him. Various reasons were given for this failure to "follow orders": The influence of age, education, economic factors, emotion, fear of hospitalization, resistance to surgical operation and refusal to accept the diagnosis were among the factors brought forth to explain this failure to accept the best that medicine had to offer.

When the physicians of a number of cancer patients were questioned, they reported that 25 per cent of the patients did not follow the recommended treatment.

Despite the large amount of publicity which has been given to the need for annual physical examinations and the seven danger signals of cancer, the families interviewed reported a delay of more than three months after the onset of symptoms before the patient sought medical advice in four cases out of ten.

Obviously, the general practitioner, the family confidante who is in the best position to know all

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To appear as part of the revised Cancer Studies.

the problems of his patient, has not been doing an efficient job when the patient has failed to understand the instructions. Frequently this lack of understanding has come about because of failure of communications between the referring physician and the specialist who is conducting the specific treatment. The patient becomes bewildered when two or more physicians are rendering him care, particularly so when, to his lay mind, different advice appears to be given. Thus, there must be, in the interest of the patient, a close liaison between the various physicians on the case. Each of them must take the necessary time to explain to the patient that portion of the total care for which he is responsible.

The specialist in most instances does not have the total family problem before him. His advice should remain in the area of his greatest capability, where he can be of greatest help to the patient. The general practitioner should not enter into the specific realm of the specialist, for his broader knowledge of the family's problems is of far greater value in this sphere. Both should contribute, to the best of their ability, to the improvement of the poor statistics cited above.

There are three distinct periods in the progress of each case of cancer: The first includes the diagnosis. This stage has an indeterminate beginning. It is concluded at the moment of specific and definitive understanding of the nature of the patient's malignant process. The second period extends throughout the course of treatment. It ends when all possible treatment for arrest of the disease has been given and when further treatment is directed toward palliation and the comfort of the patient. The third and final stage is terminal.

That early diagnosis is of paramount importance has been well established. The profession and the public have been repeatedly made aware of the danger signals and the need for adequate and thorough investigation of signs and symptoms which may indicate cancer. The public is increasingly conscious of the advisability for periodic health examinations with appropriate laboratory tests, including cytological study.

In this first period, the general practitioner is of utmost importance. He is the one who has the best opportunity to discover early malignant change. He should satisfy himself that he understands the disease process in the individual patient by the use of all the knowledge and skills which are available to him. There has been a great deal written regarding the examination of the patient for cancer. Patients who are perturbed about the possibility of cancer frequently call for appointments, expressing their desire for examination for this disease specifically.

The Cancer Commission of the C.M.A. has frequently stated that the best examination for cancer is the complete physical examination. It would be needless repetition to outline here the proper method of examining a patient, for it is dealt with in every elementary textbook on physical diagnosis. The obligation of the general practitioner is to be sure that he has overlooked no possible examination or test which might discover an early malignant lesion. In particular, he should explore every symptom or sign which might indicate the start of a tumor.

Frequently, it is stated that the increase of specific knowledge has made it impossible for any individual physician to encompass all of it. But the general practitioner need not have at his fingertips the specific detailed information regarding the various methods used in cancer therapy. He must have basic comprehension, and rely upon associates in the appropriate specialties for detailed knowledge and specific therapy.

The general practitioner, then, has several functions to perform in the service and for the benefit of the cancer patient:

1. He alone has the great opportunity of making the early diagnosis.

2. With his assistance in the selection of consultants, the patient is guided to the best application of the science of treatment.

3. He is the one physician who can comprehend the impact of the cancer upon the patient and his family and is best fitted to interpret the specialized treatment to them.

4. As collateral problems develop, he is best fitted to apply the highest quality of the art of medicine for the comfort of the patient.

701 Channing Avenue, Palo Alto, California 94301.

Malignant Melanoma

LEONARD DOBSON, *M.D.*, San Francisco

MALIGNANT MELANOMA is a relatively rare, unpredictable tumor. No other tumor better exemplifies the "vagaries of cancer." Although it has long been considered to be one of the least curable of all tumors, a recent report by Heise and Krementz on 1,447 patients with malignant melanoma of the skin from 99 hospitals and diagnostic clinics showed that the five-year survival rate for patients in all stages of disease combined was 58 per cent for females and 38 per cent for males.[11] These results indicate that malignant melanoma is not the hopelessly incurable disease that it has long been considered to be.

About 95 per cent of all melanomas arise in the skin, and this article will be restricted to malignant melanomas of the skin.

RECOGNITION AND EARLY DIAGNOSIS

Origin of malignant melanomas

It is believed that the majority of malignant melanomas arise in preexisting junctional and compound nevi. In some cases, however, there is no history of a preexisting mole and in rare instances no primary site can be found.

In most cases the earliest sign of the development of a melanoma is a change in a nevus: The mole may enlarge or become more elevated and darker in color; a gray to black areola may encircle the mole; or satellite pigmented nodules may develop about the periphery. Sometimes the mole becomes ulcerated and bleeds, and it may itch or have a pricking, sticking or burning sensation. Most melanomas are black but some primary melanomas and metastatic lesions contain little or no pigment.

Distribution according to sex and age

Most reports of malignant melanomas indicate that there is approximately an equal distribution between sexes. Most malignant melanomas occur around the ages of 50 and 60, although some occur in the 80's and 90's, and in rare instances before puberty.[5]

Location

The order of frequency with which malignant melanomas arise in various areas of the body is as follows: (1) head and neck, (2) lower extremities, (3) trunk and (4) upper extremities.

The influence of trauma

It is unknown what changes a benign junctional nevus into a malignant melanoma. Most authorities agree that a single trauma does not precipitate the change to malignancy but many believe that chronic repeated trauma may lead to malignant change. A bleeding, ulcerated, pigmented lesion at the site of injury that is removed and found to be a malignant melanoma was probably malignant before the injury. Solar injury is one form of trauma that is considered to be a provocative factor because sunlight stimulates both functional and proliferative melanoblastic activity.

The effect of pregnancy

Until lately, it had long been accepted that pregnancy has a deleterious effect on moles and that the prognosis for a melanoma developing during pregnancy was much poorer than in non-pregnant women. However, recent reports by George and coworkers[7] and White and coworkers[21] indicate that pregnancy has no deleterious effect on the course of melanomas.

Spread

Malignant melanomas spread through the lymphatic and blood vascular systems. In the early stages in most cases this spread is through the lymphatic channels, either through those in the skin or by emboli through the deep lymphatic chains to the regional lymph nodes. At some stage veins are invaded and tumor emboli are spread to the liver, lungs, brain and other distant parts of the body. This dissemination may occur without the tumor's ever spreading to the regional lymph nodes although in many instances it spreads by both routes.

To appear as part of the revised Cancer Studies.

DIFFERENTIAL DIAGNOSIS

Lesions which may resemble malignant melanoma, and often have to be differentiated from melanoma by microscopic examination, include the following:

Pigmented nevi are the most common skin tumors. Many persons have multiple moles, which vary from the light-brown, hairy types to jet-black, shiny, smooth ones. There are three classes of nevi: (1) intradermal, (2) junctional and (3) compound. Junctional and compound nevi may become malignant and usually the various types of nevi can only be differentiated by microscopic examination.

Pigmented basal cell epitheliomas are usually waxy, umbilicated plaques, and the pigment is irregularly scattered throughout.

Blue nevus (Jadassohn) is congenital, is raised and circular or oval, and has a dark blue color.

Pyogenic granulomas are nodular or papular red lesions which develop rapidly and bleed easily. They may resemble amelanotic melanomas, or the granuloma may become black by extravasated blood.

Hemangioma with areas of thrombosis. Some hemangiomas become deeply pigmented, especially if superficial thrombosis develops. A dark areola of hemosiderin may grossly have the appearance of melanin.

Seborrheic keratoses may become deeply pigmented, but the lesions are superficial and may be scraped or washed off.

Subungual hematoma. Hemorrhage beneath a nail rarely occurs without trauma, but if it does, it is difficult to differentiate it from a melanotic whitlow.

Solitary lesion of Kaposis sarcoma. The purple to black color of Kaposis sarcoma may cause it to resemble melanoma in the rare instance when it appears as a solitary lesion.

Lentigo or freckle. Melanotic freckle is superficial, and its malignancy can only be established by microscopic examination.

TREATMENT

Before proceeding with any extensive surgical procedure, the diagnosis of malignant disease must be unequivocally established. This is accomplished by an *excisional* biopsy with immediate frozen section examination. If the pathologist is unable to make a diagnosis from frozen sections, the wound is closed and definitive treatment is postponed until examination of the permanent sections establishes the diagnosis. It is generally agreed that *incisional biopsy* should not be done, except in large ulcerated and fungating lesions, because of the possibility of spreading the disease. When melanoma is suspected clinically, the excisional biopsy should be done under general anesthesia with the patient prepared mentally and physically for a more radical operation if malignancy is established.

Definitive Treatment

Surgical operation is the only curative modality in the treatment of malignant melanoma. The treatment recommended during the past ten years by the majority of surgeons is a wide excision of the primary tumor and elective so-called prophylactive regional lymph node dissection. The arguments for simultaneous versus delayed node dissection and the exceptions are discussed later, in the section *"Prophylactic" versus "Therapeutic" Regional Node Dissection.*

Wide excision with or without skin grafting

Under general anesthesia a skin ellipse is made five centimeters beyond all margins of the primary lesion. Then a three-dimensional excision is done. The excision is carried through the superficial fascia, at which level flaps are dissected in all directions down to and including the fascia overlying muscle. This is further dissected beyond the limits of the subcutaneous fat, and the entire specimen is dissected cleanly from the underlying muscle. If the incision can be closed without tension by mobilizing flaps, this will provide the ideal closure. Usually, however, the extensive excision of skin requires a split skin graft which should be taken from the thigh — from the other thigh if the primary lesion is on the leg. To avoid implanting tumor, gowns, gloves and instruments should be changed before cutting the graft.

Wide excision of the primary with dissection of adjacent lymphatics in continuity

There is general agreement that if the primary lesion lies above or adjacent to the lymphatic channels draining the area, the excision and lymph node dissection should be done in anatomic continuity. This procedure can seldom be done because relatively few melanomas are close to the nodes in the groin, axilla or neck. Dissection in continuity was first described by Pringle in 1907[15] and more recently advocated by Pack and co-workers.[13]

Wide excision of the primary and discontinuous, but simultaneous, lymphatic dissection, whether the regional nodes are enlarged or not. (See discussion in section on *"Prophylactic" versus "Therapeutic" Dissection*).

This procedure should be used if the location of the primary lesion is such as to preclude a dissection in continuity, and it should be done at the time the primary is excised.

Figure 1 illustrates a case of a malignant mela-

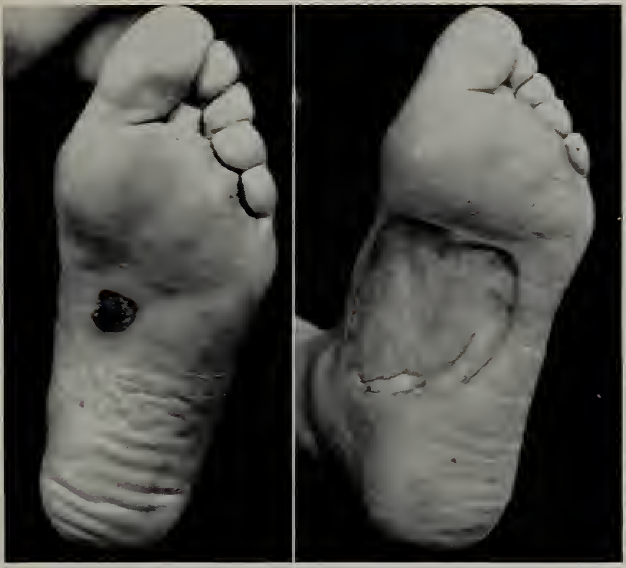

Figure 1.—*Left,* malignant melanoma of the foot of a 55-year-old man who had been aware of a dark spot on the sole for five years. The lesion had become darker and had been growing for three months. He thought it was a "blood blister" and on several occasions had attempted to drain it with his pocket knife. *Right,* the melanoma was excised. A simultaneous femoral node dissection was performed and skin grafting was carried out. No metastasis was found in the regional nodes, and there was no recurrence in the 12 years of observation.

noma of the sole of the foot before and after excision and simultaneous regional node dissection. Figure 2 shows the microscopic appearance of a typical primary melanoma.

Single or multiple lymphatic dissections after control of the primary

In some cases in which an elective lymph node dissection was not done, metastatic lesions developed later in the regional nodes. The treatment in such circumstances is radical lymphatic dissection.

Amputations

Most surgeons restrict amputations to involved fingers or toes and combine this with a regional lymph node dissection. In rare instances, a hip joint or shoulder disarticulation may be indicated.

Isolation-perfusion

An extremity may be isolated from the remainder of the body by a tourniquet and then perfused by means of an extracorporeal circuit. This brings a high concentration of a drug into contact with the tumor without producing generalized effects. The procedure is not a substitute for surgical excision in potentially curable patients. However, in cases in which multiple metastatic lesions develop in an extremity, the isolation-perfusion technique with phenylalanine mustard has produced encouraging results.

Creech, Ryan and Krementz[2] developed the technique of isolation-perfusion. Stehlin and co-workers[17,18,19] and Golumb and co-workers[8] have reported regression of recurrences of metastatic lesions in about a third of the cases in which perfusion was done. It should be emphasized that this procedure is still in the experimental stage, is accompanied by many complications, and should be restricted to use in special centers.

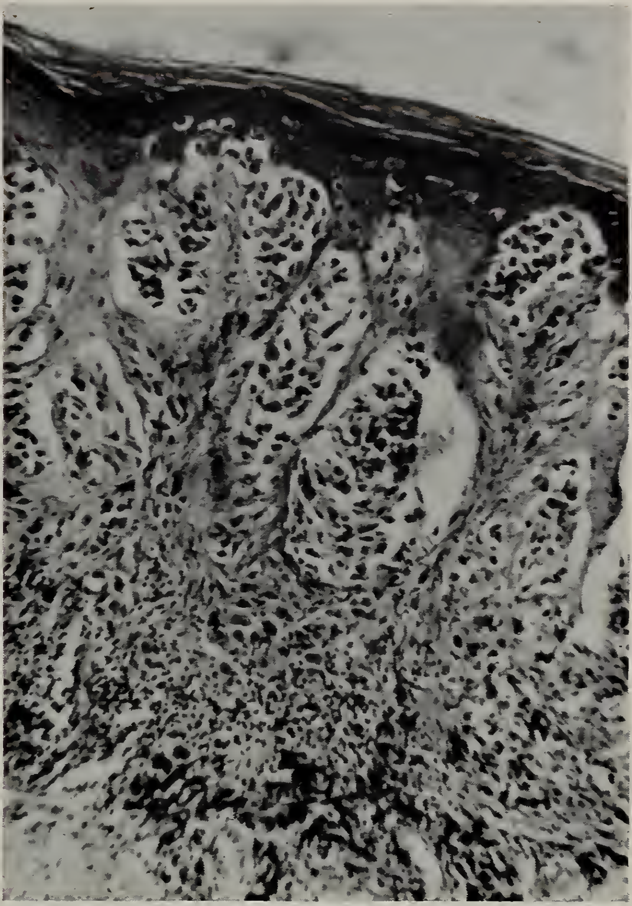

Figure 2.—Microscopic appearance of a typical malignant melanoma of the skin. Note the pleomorphism of the cells and the invasion of both the epidermis and the dermis (× 1,000).

The treatment of inoperable malignant melanoma

X-ray therapy is often very helpful in the treatment of recurrences or metastatic lesions, particularly where it is possible to treat small fields with a high dosage. Systemic treatment with phenylalanine mustard has produced temporary improvement in a few cases. Isolation-perfusion of a limb is proving to be of increasing value.

"PROPHYLACTIC" VERSUS "THERAPEUTIC" REGIONAL NODE DISSECTION

The term *elective* (or *prophylactic*) as applied to lymph node dissection means routine radical regional lymph node dissection even though the nodes are not enlarged. This dissection should be in continuity if possible. The dissection is done at the time the primary lesion is excised or, as some investigators advise, six weeks later. The term *therapeutic* refers to a radical lymph node dissection carried out when the nodes become enlarged and are clinically considered to contain metastatic tumor.

The question of whether regional lymph nodes should be dissected even though they are not enlarged has been debated for the past 60 years. Eve[6] in 1902 said: "The removal of the nearest chain of lymphatic glands *whether palpably enlarged or not* should never be omitted; for it may be taken as a matter of certainty that in a great majority of cases they are infected." Handley[10] in 1907, on the basis of his studies of the pathology of melanoma, strongly endorsed Eve's recommendations.

A survey of much of the literature on the treatment of melanoma during the past 60 years indicates that most surgeons recommend elective or prophylactive node dissection. Of 31 articles dealing with the treatment of malignant melanoma, 22 advise routine prophylactic dissection, five advise prophylactic dissection if it can be done in continuity, three state that the authors are doing such a dissection but are not convinced of its value, and only one recent report advises against prophylactic dissection, even in continuity.

The superiority of elective node dissection is reflected in higher five-year survival statistics in nearly every report. The higher survival associated with prophylactic dissection is attributed to the early removal of lymph nodes containing metastatic lesions that are so minute they have caused no palpable enlargement. Furthermore, pathologists are becoming more skilful in diagnosing small deposits of tumor in lymph nodes. Four recent articles reported that 42 to 50 per cent of clinically negative nodes contained metastases.

Southwick, Slaughter, Hinkamp and Johnson[16] made a special study of the role of regional node dissection in the treatment of malignant melanoma. Of particular interest in their study were patients with clinically negative nodes. Results of the study are shown in Table 1.

Southwick and coworkers attributed the difference in positive nodes in the two series to difficulty in identifying microscopic foci of tumor cells. Whereas many of the nodes in Group B were not identified as "positive," in Group A the metastatic lesions grew and the nodes became enlarged before they were removed.

Although most surgeons now agree that elective radical regional lymphatic dissection is indicated, there are differences of opinion as to when it should be done. On the assumption that tumor emboli are in transit in the lymphatic channels, many surgeons advise a "waiting period" of several weeks before doing the dissection. Others — among them Guiss and Macdonald,[9] Charalambidis and Patterson,[1] Southwick and coworkers[16] and Ochsner and Harpole[12] — urge the regional node dissection at the time the primary lesion is excised.

TABLE 1.—*Comparison of Results of Elective versus Therapeutic Dissection*

96 Patients with Clinically Negative Nodes

Group A		Group B	
Patients with local excision only	71	Patients with local excision and elective node dissection	25
Number who later developed nodal enlargement and had therapeutic dissection	29	Number with positive nodes	4
Number with positive nodes	26	Number of the 25 who were living after five years	20 (80%)
Number of the 71 who were living after five years	23 (32%)		

The experimental work of Weinberg and Greaney[20] strengthens the case for simultaneous dissection of the regional nodes. They demonstrated a rate of flow through the lymphatic channels so rapid that tumor cells could reach regional lymph nodes in a matter of minutes rather than days or weeks. Another argument for the simultaneous node dissection is that the patient would be spared a second operation and the expense and disability it entails.

Exceptions to the principle of elective node dissection

Occasionally the melanoma is located in the midback or mid-chest, equidistant from two or even four lymph collecting areas. In such cases many surgeons prefer to observe the patient carefully and to do therapeutic node dissections at the first sign of spread to any of the areas.

PROGNOSIS

Classification of stage of disease

There has been no standard classification of the stage of disease in reporting the results of treatment. With elective regional node dissection being done more frequently, a simple inclusive classification becomes even more important. In 1953 Dobson[4] proposed the following classification and further urges its general adoption.

Classification of Malignant Melanomas According to Extent of Disease

Stage I—Localized lesion (clinically and microscopically negative nodes and no distant metastasis)
Stage II—Clinically negative but microscopically positive nodes and no distant metastasis
Stage III—Clinically and microscopically positive regional nodes without distant metastasis
Stage IV—Distant metastasis

Present five-year survival statistics show a definite improvement over those reported 20 years ago or more. Pack[14] in 1959 compared the five-year survival rate before 1946 with the survival rate between then and 1959 for patients with melanoma at various sites:

	Before 1946 *575 cases*	*1946-1959* *189 cases*
Melanomas of head and neck	18.0%	39.5%
Melanomas of trunk	13.7	31.2
Melanomas of lower extremity	30.6	42.4
Total experience	21.4	37.7

The prognostic significance of regional node involvement

The reports of five-year survival indicate that metastasis in regional nodes is of great prognostic significance. Daland[3] reported a five-year survival of 71 per cent when nodes were negative and 26 per cent when positive. Guiss and Macdonald[9] reported 87 per cent and 31.4 per cent respectively.

Sex of patient as a prognostic factor

Heise and Krementz[11] reported that the five-year survival for patients in all stages of disease combined was 58 per cent for females and 38 per cent for males. With localized disease, five-year survival was 76 per cent for women and 63 per cent for men; with regional involvement, 45 per cent for women and 19 per cent for men.

Explanations for the improvement in five-year survival statistics may be listed as follows: (1) Continued education of the public and the medical profession by the American Cancer Society and other organizations is resulting in establishing the diagnosis in an earlier stage; (2) fewer skin lesions are being cauterized or excised and the specimen discarded without obtaining a histological examination; and (3) more adequate surgical operation is being carried out for both the primary and regional nodes.

PROPHYLAXIS

If all junctional nevi could be removed from everyone before puberty, very few melanomas would develop. It is not possible or necessary to excise all nevi from everyone, so it is advisable to select for removal the nevi that are most apt to be junctional or to have a junctional component. It is usually advised that nevi be excised from the hands, feet and genitalia and from areas where they are commonly irritated, such as below the breasts, around the waist or on the shoulder. The excision should be done before puberty.

In addition any change in appearance or the development of any symptom in a mole (as indicated in section on *Recognition and Early Diagnosis)* calls for prompt excision and a microscopic examination for every lesion.

CURRENT RESEARCH AND TRENDS FOR FUTURE MANAGEMENT

In several centers attempts are being made to discover new drugs for the treatment of melanoma. Tissue culture studies of human melanomas are used to screen new drugs, and promising drugs are tried in patients under controlled conditions. Phenylalanine mustard taken orally has proven to be temporarily effective against melanoma in a few cases, but when used in a high concentration in isolation-perfusion techniques, regressions have been reported in more than a third of the cases.

Techniques are being developed to more completely isolate a perfused limb, segment of the body or organ so that a higher concentration of a drug can be brought into contact with the melanoma with less leakage into the systemic circulation.

Biochemical studies are being made of body fluids and of the perfused areas. Techniques are being developed for obtaining tissue-culture sensitivity tests before perfusing.

One of the disadvantages of an elective regional lymph node dissection in discontinuity is that occasionally metastatic lesions grow in the limb between the excisions. Stehlin and co-workers[18] stated that they no longer carry out prophylactic dissection unless it can be done in continuity. Instead, they do an elective perfusion in most of their patients with malignant melanomas of the extremities. They are experimentally perfusing limbs in an attempt to eliminate metastasis from lymphatic-borne tumor emboli.

SUMMARY

Malignant melanoma is a highly malignant disease which must be treated by wide excision of the primary lesion and radical dissection of the regional nodes whether they are clinically involved or not.

Whenever possible the node dissection should be carried out in anatomic continuity and performed at the time of excision of the primary tumor.

Numerous pigmented and non-pigmented lesions can mimic a malignant melanoma and must be differentiated from it by microscopic examination.

Moles which may be of the junctional nevus type should be removed prophylactically from the feet, hands and genitalia and from other areas if they are subjected to repeated trauma.

Moles which change should be excised and always examined microscopically. They should not be cut into or electrodessicated.

The five-year survival rate from malignant melanoma has improved considerably in the past 20 years. This improvement results from earlier diagnosis and treatment as the result of continuing lay and professional education and more adequate surgical operation.

Isolation-perfusion with phenylalanine mustard is proving to be of value in the treatment of recurrent or metastatic melanoma of the extremities.

350 Post Street, San Francisco 94108.

REFERENCES

1. Charalambidis, P. H. and Patterson, W. B.: A clinical study of 250 patients with malignant melanoma, Surg. Gynec. and Obst., 115:333-341, Sept. 1962.

2. Creech, O., Jr., Ryan, R. and Krementz, E.: Treatment of melanoma by isolation-perfusion technique, J.A.M.A., 169-339, Jan. 24, 1959.

3. Daland, E. M.: Malignant melanoma; a personal experience with 170 cases, New Eng. J. Med., 260:453-460, Mar. 5, 1959.

4. Dobson, L.: Malignant melanoma—a critical view of surgical problems, West J. of Surg. Obst. and Gynec., 61: 518-523, Sept. 1953.

5. Dobson, L.: Prepubertal malignant melanomas, report of two cases, Am. J. Surg., 89:1128-1135, June 1955.

6. Eve, F.: Melanosarcoma, The Practitioner, 70:165, Feb. 1903.

7. George, P., Fortner, J. and Pack, G.: Melanoma with pregnancy, Cancer 13:854-859, July-Aug. 1960.

8. Golomb, F., Postel, A. Hall, A., Gumport, S., Cox, K. and Wright, J.: Chemotherapy of human cancer by regional perfusion, Cancer 15:828-845, July-Aug. 1962.

9. Guiss, L. W. and Macdonald, I.: The role of radical regional lymphadenectomy in treatment of melanoma, Am. J. Surg. 104:135-142, Sept. 1962.

10. Handley, W.: Melanosarcoma, Lancet I:927-933, Apr. 6, 1907; I:966-1003, Apr. 13, 1907.

11. Heise, H. and Krementz, E.: Survival Experience of Patients with Malignant Melanoma of the Skin, National Cancer Institute, Bethesda, Md., Monograph No. 6, Sept. 1961, pages 69-84.

12. Ochsner, A. and Harpole, D.: Malignant melanoma: its prognosis as influenced by therapy, Ann. Surg., 155:629-638, May 1962.

13. Pack, G., Scharnagel, I. and Morfit, M.: The principle of excision and dissection in continuity for primary and metastatic melanoma of the skin, Surgery, 17:849-866, 1945.

14. Pack, G. T.: End results in the treatment of malignant melanoma, Surgery, 46:447-460, August 1959.

15. Pringle, J. H.: Treatment of Melanosarcoma, Edinburgh Med. J., 23:496, 1908.

16. Southwick, H., Slaughter, D., Hinkamp, J. and Johnson, F.: The role of regional node dissection in the treatment of malignant melanoma, Arch. of Surgery, 85:63-69, July 1962.

17. Stehlin, J. and Clark, R.: Experiences with regional chemotherapy. Perfusion and intra-arterial infusion, Arch. of Surgery, 85:84-94, July 1962.

18. Stehlin, J. S. Jr., Clark, R. L. Jr., Smith, J. L. Jr., and White, E. C.: Malignant melanoma of the extremities. Experiences with conventional therapy: a new surgical and chemotherapeutic approach with regional perfusion, Cancer, 13:55-66, Jan.-Feb. 1960.

19. Stehlin, J. S. Jr., Clark, R. L. Jr., White, E. C., Smith, J. L. Jr., Griffin, A. D., Jesse, R. H. Jr., and Healey, J. E. Jr.: Regional chemotherapy for cancer: experience with 116 perfusions, Ann. Surg., 151:605-619, 1960.

20. Weinberg, J. and Greaney, E.: Identification of regional lymph nodes by means of a vital staining dye during surgery of gastric cancer, Surg. Gynec. and Obstet., 90:561, 1950.

21. White, L., Linden, A., Breslow, L. and Harsfeld, L.: Studies on melanoma. The effect of pregnancy on survival in human melanoma, J.A.M.A., 177:235, 1961.

Tumors of Bone

J. VERNON LUCK, ***M.D.,*** **and C. P. SCHWINN,** ***M.D.,*** **Los Angeles**

In recent years there has been an upswing of interest and investigation in the complex field of bone tumors,[1,2,4] and even though etiologic knowledge is wanting, considerable progress has been made in the realms of earlier diagnosis and prompt institution of appropriate therapy.

Primary malignant bone tumors are rare (three per 100,000 population at the peak incidence in the second decade)[5] and the average practitioner is not likely to encounter more than a few cases in his lifetime. Nevertheless, if the physician bears in mind that persistent pain or swelling, tenderness and disability in relation to a bone are indications for roentgenographic study of the affected part, he will detect the majority of the bone tumors he encounters. More important, he will detect them early in their evolution when they are most likely to be amenable to proper therapy.

Roentgenographic Examination

Adequate roentgenographic examination for a suspected bone tumor should include scout exposures on large films in two or more planes, including the joints above and below the symptomatic area. If a lesion suspicious of a tumor is found, stereoscopic views and other exposures designed to bring out both osseous and soft tissue detail are often mandatory. When the findings are equivocal, a careful comparison with x-ray films of the normal side is imperative. Chest films and a skeletal survey are made when indicated.

Microscopic Diagnosis

Appropriate therapy is based upon accurate histopathologic diagnosis. The highest degree of diagnostic accuracy is attained by a competent pathologist working in close cooperation with the clinician and roentgenologist. Needle biopsy—either by aspiration or by extraction of a core of tissue from the lesion—can be performed in the physician's office or in an out-patient clinic under local anesthesia, and permits a definitive diagnosis in many cases. If, as often happens, the needle biopsy is negative or equivocal, the patient should be admitted to hospital for open biopsy under general or local anesthesia.

In carefully selected cases, open biopsy can be accomplished with the use of double tourniquet technique and frozen section consultation. If the lesion is benign, adequate extirpative procedures can be carried out; if unequivocally malignant, ablative surgical operation can be done or radiation therapy begun; and if infectious, appropriate bacteriological techniques can be employed. If a definitive diagnosis cannot be established at the time of operation, the pathologist and the surgeon need to be certain that adequate tissue has been removed for the permanent paraffin sections. For cartilaginous and round cell tumors permanent sections usually are required for accurate interpretation.

Laboratory Findings

In general, laboratory determinations contribute little to the definitive diagnosis of bone tumors. Those pertinent in the differential diagnosis of demonstrable bone lesions include acid and alkaline phosphatase; serum calcium and phosphate; total serum proteins and electrophoretic analysis of the component proteins.

Persistent elevation of serum acid phosphatase indicates metastatic prostatic carcinoma. Elevation of alkaline phosphatase (in the absence of liver disease) may be indicative of normal new bone formation (fracture healing, bone growth in children), or it may indicate abnormal new bone formation (Paget's disease, osteosarcoma, osteoblastic carcinoma metastases, myositis ossificans); or the elevation may be compensatory as in hyperparathyroidism or osteolytic metastasis of carcinoma. Significant elevations of serum protein and especially of the globulin fractions are usually indicative of multiple myeloma, but minor elevations can occur with metastatic carcinoma.

CLASSIFICATION

In this brief report it is impractical to attempt too complicated a classification or to present detailed histopathologic findings. It will be sufficient to state that primary bone tumors are those either arising in

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To appear as part of the revised Cancer Studies.

TABLE 1.—*Primary Bone Tumors and Related Conditions*

Benign	Malignant
Osteochondroma (exostosis)	Malignant giant-cell tumor
Hereditary multiple exostosis	
Enchondroma (chondroma)	Osteogenic sarcomas
Multiple enchondromatosis (Ollier's disease)	Primary osteosarcoma
Periosteal (juxtacortical) chondroma	Primary fibrosarcoma
	Primary chondrosarcoma
Synovial and tenosynovial chondromatosis	Secondary chondrosarcoma
Benign chondroblastoma	Parosteal (juxtacortical) osteogenic sarcoma
Chondromyxoid fibroma	Osteogenic sarcoma in Paget's disease
Osteoid osteoma	Irradiation induced osteogenic sarcoma
	Osteogenic sarcoma arising in fibrous dysplasia
Benign osteoblastoma	Osteogenic sarcoma arising in bone cysts
Aneurysmal bone cyst	
Unicameral bone cyst	Ewing's sarcoma
Hemangioma	Reticulum-cell sarcoma
Fibrous cortical defect (non-ossifying fibroma)	
Fibrous dysplasia	Multiple myeloma
Eosinophilic granuloma	Metastatic cancer
Benign giant-cell tumor	Adamantinoma (malignant angioblastoma) of limb bones
	Angiosarcoma (including malignant hemangioendothelioma)
Brown tumor of hyperparathyroidism	Chordoma
Giant-cell reparative granuloma (giant-cell fibroma)	
Ameloblastoma (adamantinoma) of jaw bones	
Myositis ossificans	

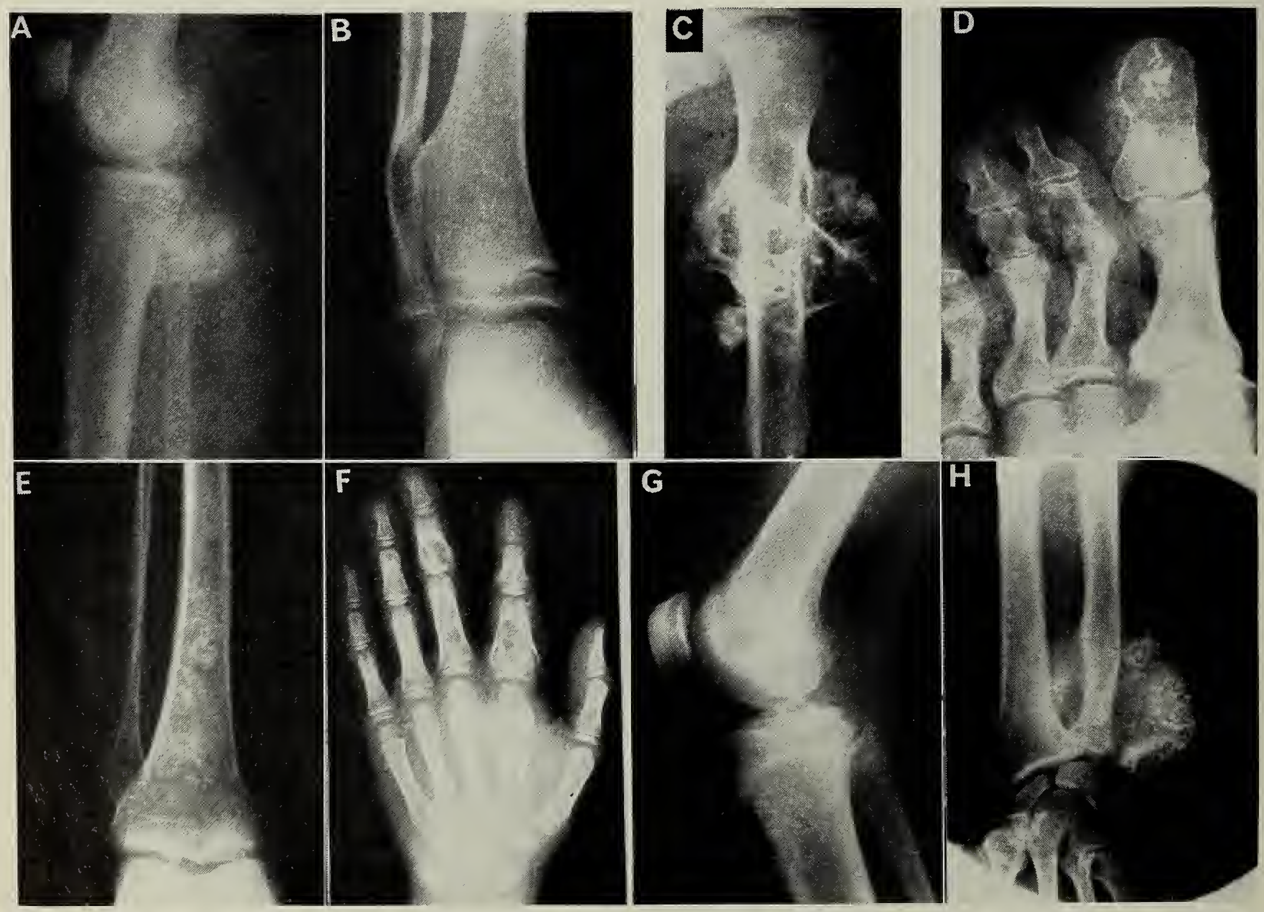

Figure 1.—A. Osteochondroma. B. Osteochondroma (sessile). C. Hereditary multiple exostosis. D. Enchondroma. E. Enchondroma with calcific stippling. F. Multiple enchondromatosis (Ollier's disease). G. Periosteal (juxtacortical) chondroma. H. Tenosynovial chondromatosis.

bones or derived from cells which are present in bones. Although many authors classify the primary bone tumors — both benign and malignant — as belonging to osteogenic, fibrogenic, chondrogenic, angiogenic, or other series (implying a relationship between the benign and malignant categories), we are in essential agreement with Jaffee[3] (1959 textbook) who proposes that: "Actually the individual primary bone tumors are brought into sharper focus, and certain confusions about them are avoided, if one considers them outside of the framework of such classifications and views them simply as clinicopathologic entities."

In accord with this viewpoint, our classification becomes a simple listing of the benign and malignant primary skeletal neoplasms together with those related bone lesions which must be considered in the differential diagnosis (Table 1).

Benign Tumors and Related Conditions

Benign tumors containing hyaline cartilage

The lesions illustrated in Figure 1 are considered together because all contain true hyaline cartilage and, at least theoretically, might be expected to occasionally undergo chondrosarcomatous transformation.

Solitary osteocartilaginous exostosis (osteochondroma) is the most common benign bone tumor and is well known to all physicians. The lesion may be stalked (Figure 1, A) or sessile (Figure 1, B), and fewer than one per cent undergo sarcomatous transformation.

Hereditary multiple exostosis (multiple osteochondromas) is the most common systematized developmental anomaly of the skeleton encountered in practice. Each exostosis (Figure 1, C) carries risk

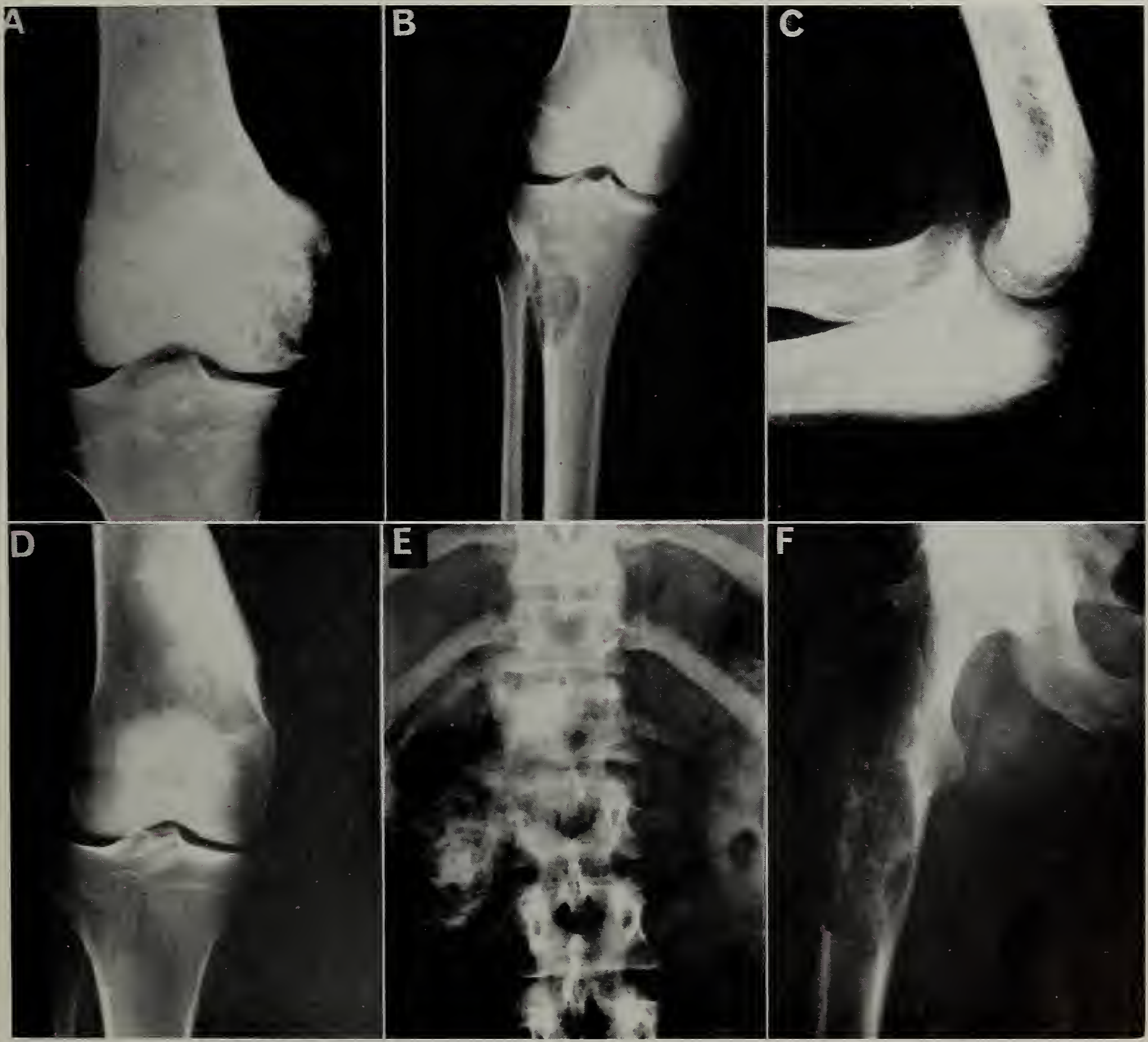

Figure 2.—A. Benign chondroblastoma. B. Chondromyxoid fibroma. C. Osteoid osteoma (nidus apparent). D. Osteoid osteoma (nidus obscured). E. Benign osteoblastoma. F. Benign osteoblastoma.

of sarcomatous degeneration, and 20 per cent of patients with this disease may be expected to develop chondrosarcoma. They should be observed closely for signs or symptoms of early malignant change.

Solitary enchondroma (chondroma) accounts for 10 to 15 per cent of benign bone tumors and occurs predominately in foot and hand bones, especially in phalanges (Figure 1, D). A few are found in long tubular and flat pelvic bones. X-ray films usually show a radiolucent defect, but sometimes there is a focal or diffuse calcific stippling (Figure 1, E). When chondrosarcoma occurs at the site of a previously curetted enchondroma, it is difficult to be certain that foci of chondrosarcoma were not overlooked in the study of the original lesion, and it is virtually impossible to estimate what per cent of enchondromas undergo malignant transformation. If such secondary chondrosarcomas do develop they must be secondary to chondromas of the pelvic or the long tubular bones, since chondrosarcomas in the bones of either the hands or the feet are extremely rare. Except in patients with multiple enchondromatosis (see below), proven chondrosarcoma of a phalanx, with metastasis, has never been recorded.

Multiple enchondromatosis (Ollier's disease) is a rare skeletal disorder (Figure 1, F) which is not believed to be hereditary. In many cases chondrosarcoma will develop. Skeletal deformities are common in enchondromatosis.

Benign chondroblastoma, chondromyxoid fibroma, osteoid osteoma and benign osteoblastoma (Figure 2)

These tumors are all considered to be true primary skeletal neoplasms of benign osteogenetic connective tissue origin. In one instance (benign chondroblastoma) the proliferating mesenchymal stromal cells produce collagenic and chondroid matrix. In a second (chondromyxoid fibroma) the tumor tissue is chondromyxoid in type, while in the remaining two (osteoma and benign osteoblastoma) tumor osteoid and bone are produced.

Benign chondroblastoma is a relatively rare (2 to 3 per cent of benign tumors) characteristically epiphyseal, benign tumor occurring twice as often in males as females and almost always in patients under 25 years of age. A typical x-ray film (Figure 2, A) shows a relatively small, eccentric, lytic, epiphyseal lesion with distinct margins. In the opinion of most experts, malignant chondroblastomas do not occur. This tumor must be distinguished from giant-cell tumor (see below).

Chondromyxoid fibroma is even less frequent, and occurs approximately one decade later than benign chondroblastoma. Characteristically it is located in the metaphysis of a long bone, is relatively large and eccentric, and it bulges into the adjacent soft tissue from which it is separated by a peripheral rim of new bone (Figure 2, B). Microscopically, the lesion must be distinguished from chondrosarcoma. Chondromyxoid fibroma has no malignant counterpart.

Osteoid osteoma is a peculiar tumor consisting of a "nidus" of osteoid and bone-forming tumor which usually arises within the cortex of a long bone and is surrounded by a zone of reactive, sclerotic bone. With precise roentgenographic techniques the "nidus" can nearly always be demonstrated (Figure 2, C) but occasionally the sclerosis is so extensive it obscures the lesion (Figure 2, D). Night pain is common. Osteoid osteoma is one of the most common benign bone tumors in children. The age distribution is similar to that of osteo-

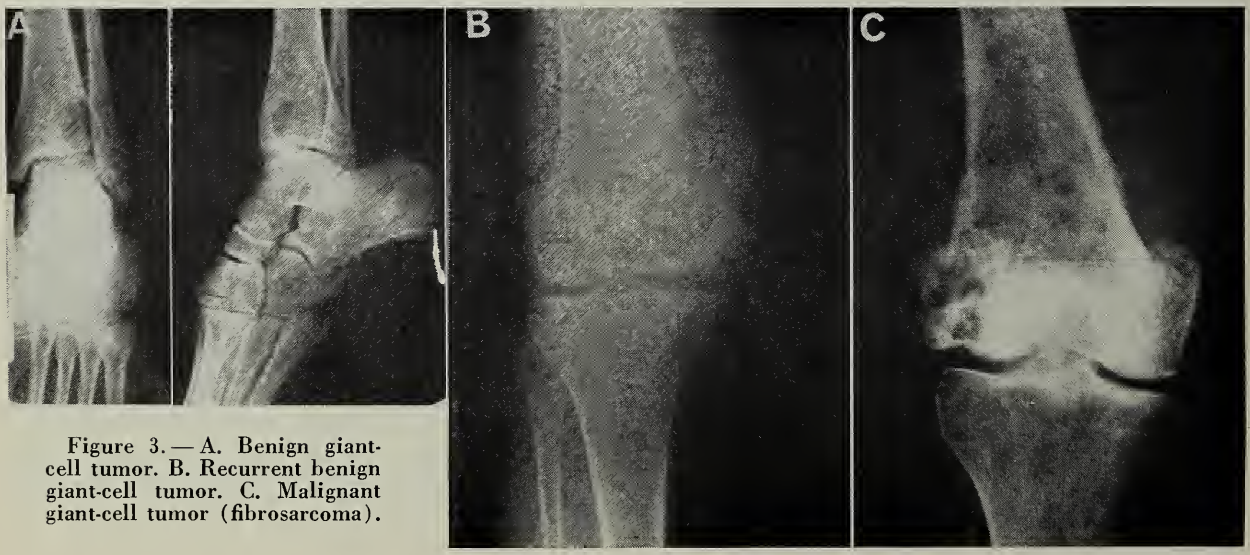

Figure 3.—A. Benign giant-cell tumor. B. Recurrent benign giant-cell tumor. C. Malignant giant-cell tumor (fibrosarcoma).

sarcoma, but as far as is known these two lesions are totally unrelated.

Benign osteoblastoma is a distinctively uncommon osteoid and bone-producing tumor, about which little is known. Approximately half of them occur in relation to the vertebral column (Figure 2, E). The age distribution is probably similar to that of osteoid osteoma or slightly later. These lesions often attain large size, sometimes while the patient is under observation, and especially following incomplete surgical curettage or inadequate radiation therapy. When situated in the vertebral column the lesion may be of sufficient size to involve more than one vertebral body, and it occasionally causes spinal cord compression.

Benign Giant Cell Tumor

Benign giant cell tumor, for practical purposes, occurs only in the epiphysis, and almost always in patients 20 years of age or older. It must be distinguished histopathologically from benign chondroblastoma which also occurs in the epiphysis, but ordinarily only in patients less than 20 years of age; from "brown-tumor" of hyperparathyroidism, giant cell reparative granuloma, aneurysmal bone cyst and fibrous cortical defect. The latter may resemble giant cell tumor microscopically, but almost never arise in epiphyses (see Figure 3).

There is no way of predicting, on the basis of either the microscopic or roentgenographic appearance, whether a given benign giant cell tumor which has been treated by conservative means will be cured, recur, or undergo sarcomatous alteration.

Malignant Primary Tumors

Osteogenic sarcoma

Osteogenic sarcoma accounts for more than half of the malignant neoplasms originating within the skeletal system, and for 5 per cent of all malignant tumors in children.

We use the term *osteogenic sarcoma* in the "generic" sense to include all malignant skeletal neoplasms of osseous connective tissue origin, subclassifying them as chondrosarcoma, fibrosarcoma, osteosarcoma, parosteal osteogenic sarcoma, etc. (Table 1) on the basis of careful evaluation and meticulous correlation of the clinical, roentgenographic and pathologic findings in the initial lesion.

In *primary osteosarcoma,* osteoid and tumor bone is produced by the stromal cells of the tumor. Roentgen studies show mainly sclerosis when bone production is the predominant feature (Figure 4, A),

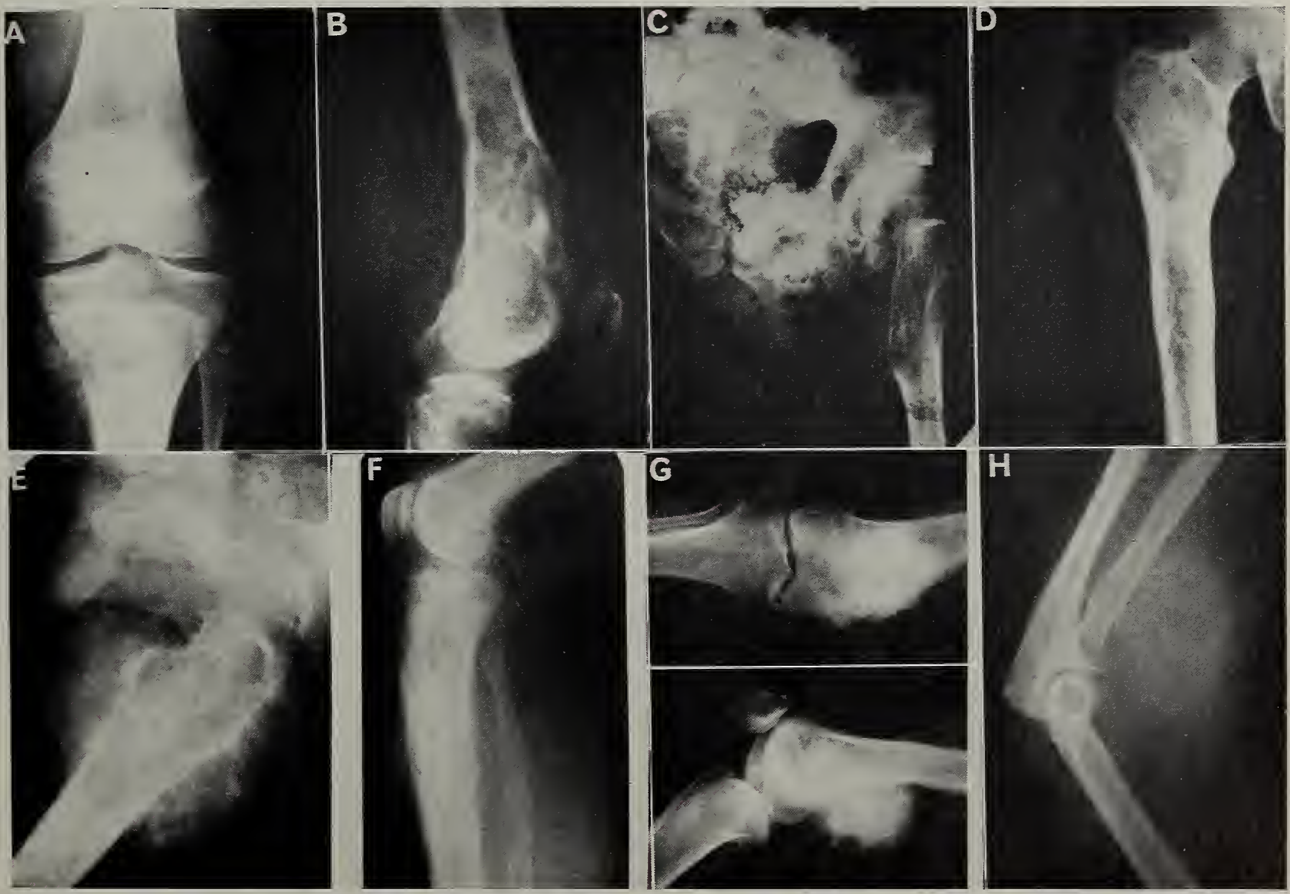

Figure 4.—A. Osteosarcoma. B. Fibrosarcoma. C. Chondrosarcoma in hereditary exostosis. D. Chondrosarcoma. E. Chondrosarcoma. F. Osteogenic sarcoma in Paget's disease (osteosarcoma type). G. Parosteal (juxtacortical sarcoma. H. Myositis ossificans.

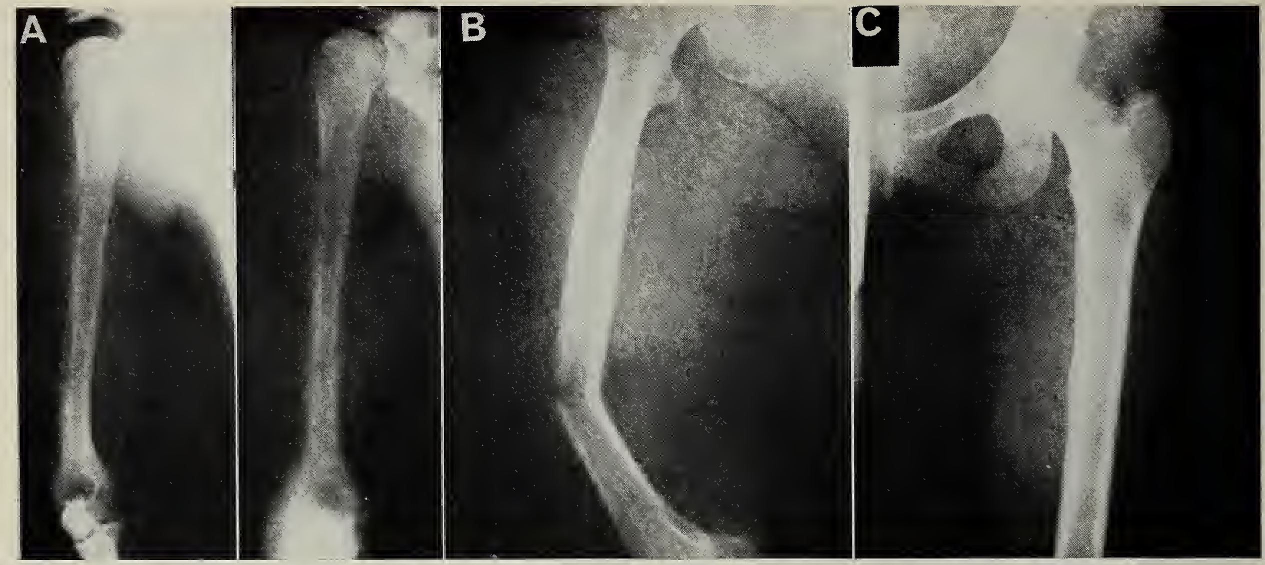

Figure 5.—A. Chronic osteomyelitis. B. Reticulum cell sarcoma with pathologic fracture. C. Ewing's sarcoma.

but the features may be "osteolytic" when osteoid production is extensive, since the latter often remains uncalcified. In *primary fibrosarcoma,* the interdigitating "fibroblastic" stromal cells sometimes produce collagen but no bone or osteoid tissue, and consequently these tumors are practically always lytic in radiographs (Figure 4, B). In *primary chondrosarcoma,* on the other hand, there is considerable variation in the roentgenographic appearance: The tumor cartilage may show considerable calcification and ossification (Figure 4, C); there may be neither calcification nor bone production (Figure 4, D); and in some "spindle-cell" chondrosarcomas the radiographic appearance may be extremely unusual (Figure 4, F). In all types of osteogenic sarcoma the tumors are destructive, and frequently there is cortical transgression, periosteal elevation, and soft tissue involvement.

Parosteal (juxtacortical) sarcoma is a distinctive, large, densely osteoblastic, low-grade, slowly growing but progressive form of osteogenic sarcoma which probably arises from the periosteum (Figure 4, G). Invasion of the cortex and medullary cavity occurs late, as does metastasis. The lesion may be confused, both microscopically and radiographically, with myositis ossificans, particularly when the latter occurs in the juxtacortical position (Figure 4, H). When doubt exists concerning the correct diagnosis, consultation should be sought from pathologists and radiologists with special interest and experience with bone tumors.

Ewing's sarcoma and *reticulum cell sarcoma* may occur at any age, but the majority of patients with Ewing's sarcoma are under 20 years, while patients with reticulum cell sarcoma are generally over 20 years of age. In both lesions, x-ray films show bone destruction as the predominant feature, sometimes in combination with reactive new bone formation (Figures 5, B and C). Either tumor frequently involves a major portion of the bone, and, unfortunately, there are no characteristic roentgenographic features which serve to distinguish one from the other.

Because the prognosis is for 50 per cent five-year survival with reticulum cell sarcoma, and only 5 per cent five-year survival with Ewing's sarcoma, it is important to establish the correct diagnosis. Microscopically, the diagnosis can be made in the majority of cases by a competent bone pathologist, but in some instances it may be extremely difficult.

Tumor-Like Lesions to be Distinguished from Primary Bone Tumors

Aneurysmal bone cyst (Figure 6, A) was named for its eccentric, "blown-out" appearance in x-ray films. Generally recognized as non-neoplastic, it is composed of cavernous blood-filled spaces embedded in an osteogenetic matrix. It may occur in any bone, but is most common at the end of the shaft of a long bone and in the vertebral column. In the later situation it may become quite large and resemble benign osteoblastoma. In addition to osteoblastoma, it must be differentiated from "osteolytic" osteosarcoma, unicameral bone cyst, and giant-cell tumor.

Unicameral (solitary) bone cyst (Figure 6, B) practically always occurs as a uniform "cystic" expansion at the end of the shaft of a long tubular bone. If the cyst abuts on the epiphyseal plate, it is considered active and capable of continued enlargement; but when a zone of cancellous bone separates the lesion from the epiphyseal plate, it is considered as "latent." The lesion is difficult to eradicate in its active phase.

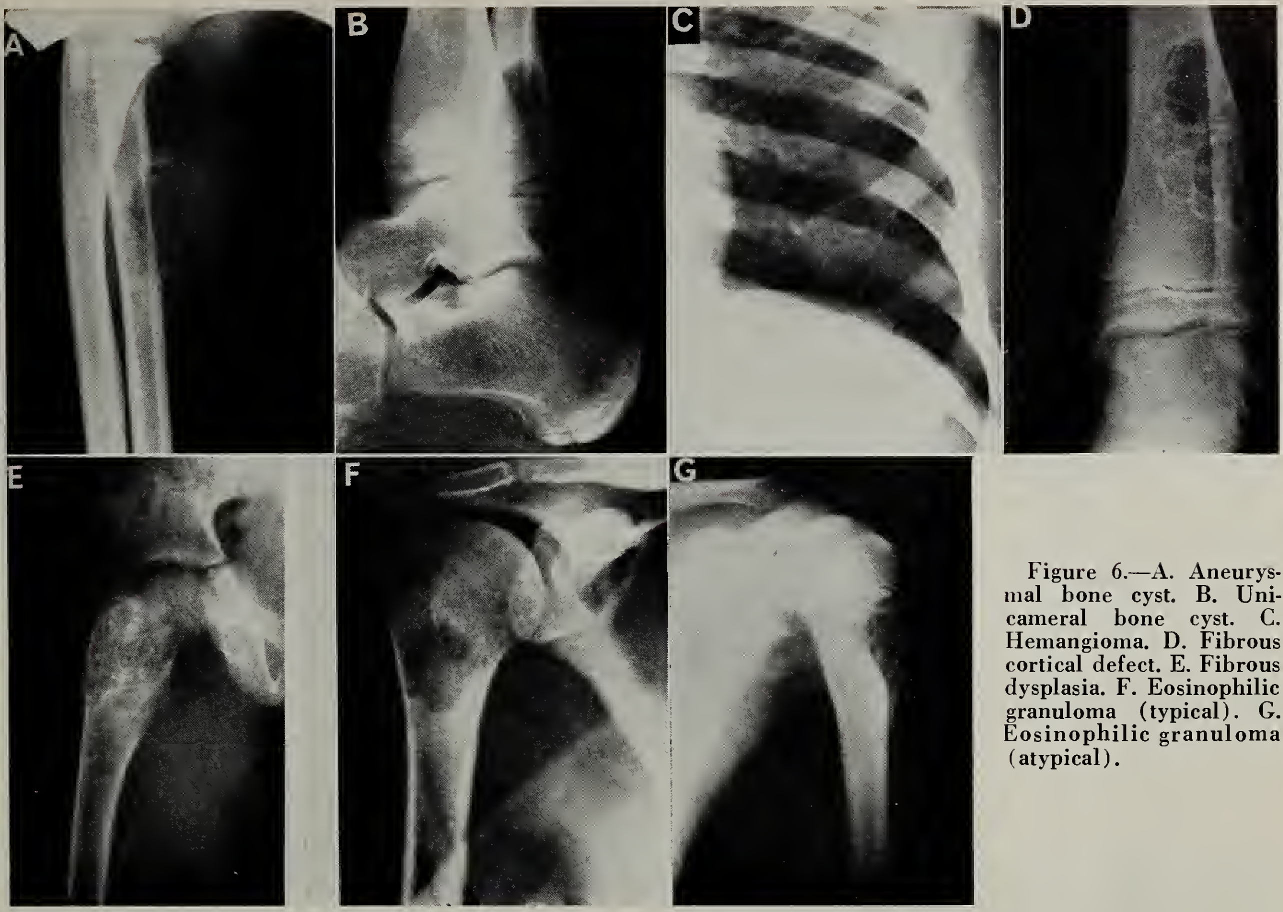

Figure 6.—A. Aneurysmal bone cyst. B. Unicameral bone cyst. C. Hemangioma. D. Fibrous cortical defect. E. Fibrous dysplasia. F. Eosinophilic granuloma (typical). G. Eosinophilic granuloma (atypical).

Hemangioma is seldom encountered except in vertebral bodies or calvarial bones. When seen in other bones, the radiographic features are nonspecific (Figure 6, C) and the diagnosis will usually not be made before biopsy.

Fibrous cortical defect and non-ossifying fibroma: Fibrous cortical defects are unusually common lesions which occur in the distal metaphyses of growing children. They have been demonstrated in 50 per cent of boys and 20 per cent of girls at one or more ages. Although they may become quite large (Figure 6, D) the majority remain confined to the cortex and regress spontaneously. In occasional cases they undergo excessive proliferation, invade the medullary cavity, and sometimes persist into adulthood. These lesions have been referred to as non-ossifying fibroma. The microscopic findings are identical in both lesions.

In *fibrous dysplasia* it is well known that the skeletal lesions may be single or multiple, and in the absence of extraskeletal abnormalities, isolated lesions (Figure 6, E) may occasionally be confused with enchondroma or unicameral bone cyst. The uniform expansion and the abnormal radiolucency distinguish this lesion from malignant tumors.

Eosinophilic granuloma is usually solitary but occasionally may be multiple. Ordinarily the x-ray films show a discreetly defined lytic lesion (Figure 6, F), but sometimes the lesion erodes the cortex and a considerable periosteal reaction develops (Figure 6, G). In these latter instances the lesion may be confused with Ewing's sarcoma or some other malignant lesion.

COMMENTS ON TREATMENT

Osteochondromas

Solitary osteochondromas should be removed when they interfere with the function of the part involved, when they produce objectionable anatomical distortions, and when they encroach on major vessels and nerves. In removing these tumors, it is important that the crown of the tumor be totally removed. It is not essential to remove all of the site of attachment of the tumor to the host bone. The bone at the base of the pediculated type is normal bone.

Enchondromas

Solitary enchondromas should be removed when they involve the larger long bones, pelvis or sternum. Frequently it is necessary to remove enchondromas of the phalanges and metacarpals because of the deformity which they create in the hand. Simple curettement is all that is required. It is not necessary to insert bone chips or bone grafts of any kind after removal of enchondromas from the small bones.

Osteoid osteomas

Excision of the nidus of the tumor is the only requirement, and it is not necessary to excise the reactive wall of osteosclerosis at the periphery. If the nidus is not excised, the same aching pain that characterized the tumor preoperatively will persist. It is frequently necessary to excise this nidus under roentgenographic control, even to the point of using Kirchner wires to guide the surgeon to the nidus.

Benign chondroblastomas

Simple curettement of the lesion is sufficient. If the lesion is large, it may be necessary to insert autogenous or bank bone into the defect.

Non-osteogenic fibroma

Only the large lesions require curettement. The smaller lesions of this type seen in childhood are generally called fibrous cortical defects and require no treatment. These lesions spontaneously disappear with growth.

Osteoblastoma

When accessible, excision of the tumor is all that is required. When inaccessible or partly accessible, x-ray therapy or a combination of excision and x-ray therapy is indicated.

Parosteal sarcoma

This is a treacherous lesion. Local wide resection has resulted in cure in a few instances, and is occasionally indicated. Larger tumors of this type, and rapidly growing types in an extremity, generally make amputation necessary.

Chondrosarcoma

The degree of malignancy is widely variable. Chondrosarcoma superimposed on an endochondroma or osteochondroma may be amenable to wide local resection. When an enchondroma or an osteochondroma begins to grow in adulthood, it should be viewed as undergoing a transition to chondrosarcoma, until proved otherwise. Treatment should not be delayed. Ablative therapy is the treatment of choice in most anaplastic chondrosarcomas of the extremities. X-ray therapy is ineffective.

Fibrosarcoma

Management is essentially the same as for primary chondrosarcoma.

Osteosarcomas

This is the most catastrophic of the osteogenic tumors. Ablative therapy is indicated. The prognosis remains poor. Intensive x-ray therapy is used by some authorities (8,000 to 10,000 r) before amputation. The use of perfusion with chemotherapeutic agents is still experimental.

Ewing's tumor

The mortality rate associated with this tumor is higher than for any other primary solitary bone tumor. Ablative therapy is occasionally used, but generally only palliative treatment. When the diagnosis is clearly established, radiation therapy is the treatment of choice with most authorities on this subject.

Giant cell tumor

The diagnosis of this tumor is difficult. Many lesions formerly diagnosed and treated as giant cell tumors have been found to be other entities. A true giant cell tumor seldom should be treated by curettage. Local resection is the treatment of choice. In malignant giant cell tumors ablative therapy is indicated.

Metastatic carcinoma to the skeletal system

The most common malignant lesion of bones in adults is metastatic carcinoma. A pathologic fracture of a long bone from a solitary metastatic focus in the diaphysis can be well treated by the insertion of an intramedullary rod. The femur and humerus are the two bones, when involved, which are well managed by this method. Pathologic fracture of the neck of the femur through a metastatic focus is best handled by removal of the head of the femur and the insertion of an upper femoral prosthesis.

See chapters on Radiation Therapy and Chemotherapy for other therapeutic measures.

2300 S. Hope Street, Los Angeles, California 90007 (Luck).

REFERENCES

1. Coley, B. L.: Neoplasma of Bone, P. B. Hoeber, New York, 1960 (2nd ed.).

2. Dahlin, D. C.: Bone Tumors, Charles C. Thomas, Springfield, Ill., 1957.

3. Jaffee, H. L.: Tumors and Tumorous Conditions of Bones and Joints, Lea and Febiger, Philadelphia, Pa., 1958.

4. Lichtenstein, L.: Bone Tumors, C. V. Mosby Co., St. Louis, Mo., 1959.

5. Luck, J. V.: Bone and Joint Diseases, Charles C. Thomas, Springfield, Ill., 1950.

CASE REPORTS

Kerosene Pneumonitis Treated with Adrenal Steroids

KARIN E. JAMISON, *M.D.*, and
EDWARD R. WALLACE, *M.D.*, Lompoc

The ingestion of petroleum distillates is a common form of accidental poisoning in children. It can cause pneumonitis that is extremely difficult to treat. In the case here reported, adrenal corticosteroids were administered and recovery was dramatic.

REPORT OF A CASE

A 13-month-old boy ingested approximately two ounces of Old English furniture polish and was seen in the emergency room of our hospital 15 minutes later. Gastric lavage was performed, using 1,500 ml of normal saline solution, with the child's head in a dependent position. He did not vomit at this or any other time.

He was then admitted to hospital. The respiratory rate was 80, pulse 140 and temperature 100.2° rectally. The lungs were clear to auscultation, the remainder of the physical examination within normal limits. The patient did not appear in great distress in spite of tachypnea. Hemoglobin was 10.5 gm per 100 ml, hematocrit 33 per cent, leukocytes 17,000 per cu mm with 80 per cent polymorphonuclear cells. Methemoglobin determination was negative. A roentgenogram of the chest (Figure 1) showed only some perihilar and basilar increase in the bronchovascular markings.

Immediately upon admission the patient was placed in a Croupette. A liquid diet was begun and 300,000 units of penicillin and 0.25 gm. of streptomycin were given intramuscularly every 12 hours. Respirations continued at 80 per minute or greater, and the patient became increasingly lethargic. Deep tendon reflexes were decreased to absent and oral feedings were refused. On the second hospital day intravenous fluid maintenance was begun, and it was continued through the ninth day. In spite of the antibiotics the temperature ran a septic course, spiking several times to 105° rectally. On the fourth day streptomycin was discontinued and chloramphenicol succinate, 125 mg intramuscularly every 8 hours, was given instead. Penicillin was continued. On the fifth and sixth days, the hematocrit having dropped to 28 per cent, 30 ml of whole blood was given.

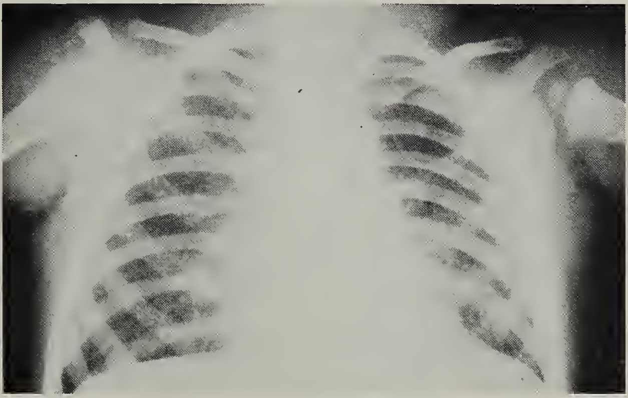

Figure 1.—Perihilar and basilar increase in bronchovascular markings.

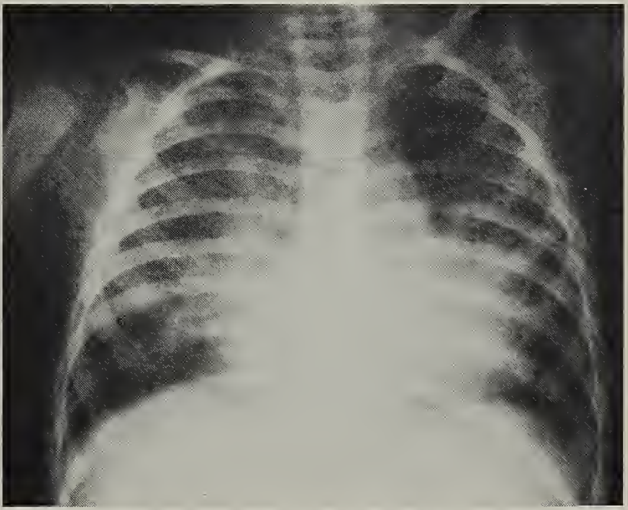

Figure 2.—Roentgenogram on sixth day of illness, showing extension of pulmonary changes and areas of consolidation.

On the sixth day a roentgenogram showed considerable extension of the pulmonary disease with obvious areas of consolidation (Figure 2). There was also some cardiac enlargement which with increased pulmonary congestion suggested toxic myocarditis. Digitalization brought about no evident improvement. By the evening of the seventh day

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Submitted July 8, 1963.

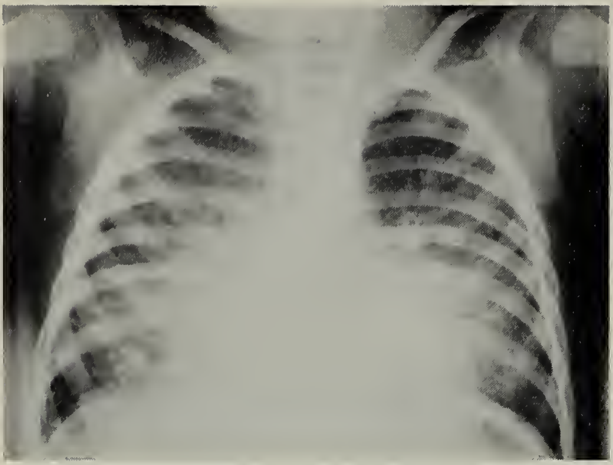

Figure 3.—Film taken on tenth day of illness showed extension of pneumonic process, although clinical condition was much improved.

the patient appeared moribund. He was unresponsive and febrile, and the respiratory rate was still 80 to 100. At this time administration of prednisolone, 20 mg intramuscularly every six hours, was begun.

Within 24 hours there was noticeable improvement in the patient's condition. The temperature decreased, becoming normal on the tenth day. Respirations slowed to 50 a minute, be became active and responsive and began taking fluids by mouth quite well—this although a chest film taken the tenth day showed extension of the pneumonic process (Figure 3). Clinical improvement continued until the nineteenth hospital day, when fever and leukocytosis recurred and rales were heard at the left lung base. Although an x-ray film of the chest showed some clearing, it was believed that the recurrence of symptoms was owing to bacterial pulmonary infection, and administration of chloramphenicol, which had been discontinued, was resumed (chloramphenicol palmitate, 60 mg by mouth every 6 hours). Within 24 hours the patient was again afebrile and his condition improving once more.

On the twenty-seventh day, severe diarrhea developed suddenly, then quickly subsided without specific therapy. Stool cultures showed only normal flora. The patient was finally discharged on the thirty-second hospital day with prescription of iron by mouth (Fer-in-sol, 0.3 cc twice daily). He was in excellent condition although x-ray films still showed some perihilar infiltration. The patient did well thereafter and a subsequent roentgenogram showed the chest completely cleared.

DISCUSSION

The accidental poisoning of children by the ingestion of petroleum distillates is still a distressingly frequent occurrence in this country. Among these compounds the one known as mineral seal oil produces a high incidence of pulmonary complications, as described by Griffin and co-workers.[1] Old English Furniture Polish contains over 90 per cent mineral seal oil.

In reviewing the literature we were able to find little information on the use of steroids in this condition. The Cooperative Kerosene Poisoning Study[3] dealt primarily with the technique of gastric lavage, and with the question of whether it should be used at all. Steroids were mentioned only in passing, with no recommendations about their use. In the case reported by Mayock and co-workers,[2] in which adrenal steroids were used, the patient was an adult with chronic pulmonary changes and the problems were unlike those in the case herein reported. However, Mayock cited reports by Nassau in the German literature and suggested that further evaluation of steroids in acute kerosene poisoning would be worth while.

SUMMARY

A child severely ill with chemical pneumonitis was treated with adrenal steroids in addition to meticulous supportive care, and dramatic improvement followed.

202 East Cypress Street, Lompoc, California 93436 (Wallace).

REFERENCES

1. Griffin, J. W., Daeschner, C. W., Collins, V. P., Eaton, W. L.: Kerosene pneumonitis, J. Pediat., 45:13-26, July 1954.

2. Mayock, R. L., Bozorgnia, N., Zinsser, H. F.: Kerosene pneumonitis treated with adrenal steroids, Ann. Intern. Med., 54:559, March 1961.

3. Press, E., et al.: Cooperative kerosene poisoning study, Pediatrics, 29:648, April 1962.

Accidental Cutaneous Coccidioidal Infection in an Immune Person

A Case of an Exogenous Reinfection

ROYAL H. SORENSEN, *B.S.*, and
STEPHEN H. CHEU, *M.D.*, Fresno

Rarely does coccidioidomycosis begin with the skin as a primary site of infection. Most cutaneous lesions result from the dissemination of organisms from some earlier, perhaps unrecognized, primary pulmonary infection. In a review of the literature, we found five clear-cut cases of accidental cutaneous coccidioidal infection, occurring in persons not previously immune, through an earlier primary in-

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From the Mycology Laboratory and Medical Service, Veterans Administration Hospital, Fresno, California 93703.

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fection. Wilson[7,10] referred to four additional unreported cases in man as well as three cases in dogs that infected themselves through injuries in their paws while digging in animal burrows contaminated with Coccidioides arthrospores. Only a single footnote reference could be found reporting primary cutaneous infection in a previously immune subject.[5]

In this report we are presenting a second case of an accidental cutaneous coccidioidal infection in a person previously immune as demonstrated by an earlier positive reaction to skin test.

REPORT OF A CASE

On September 21, 1962, a Caucasian man, a 12-year resident of the San Joaquin Valley who six weeks previously had had a coccidioidin skin test that was 2+ at 1:100, was inoculating a number of mice with a suspension of *Coccidioides immitis* arthrospores which produced 4×10^3 colonies per ml on mycosel agar. One of the mice, pulling free of the operator's grasp, caused him to flinch enough to jar the hypodermic needle forward, barely puncturing the skin at the side of the middle phalanx of his left index finger. An effort was made to induce bleeding from the puncture but only a very tiny drop of blood could be expressed. The puncture area was then rubbed vigorously with formalin. This was the only treatment at the time. Four days later a tiny induration could be felt over the slightly tender site of inoculation. During the following few days a small firm nodule with swelling developed but tenderness did not increase. By October 7 (17th day) a small white-centered pustule about 2 mm in diameter had formed. Leukocytes at this time numbered 8,700 per cu mm of blood, with 54 per cent neutrophils, 46 per cent lymphocytes but no eosinophils. The red-cell sedimentation rate was 11 mm in one hour. Material aspirated from the pustule was examined microscopically and cultured on blood agar plates. The microscopic preparation showed a very few mature spherules. Two had ruptured and the endospores appeared to be crenated or shriveled. One colony of fungus grew from the blood agar plate. This was transferred to a fresh mycosel plate where it grew colonies typical of "*C. immitis*." A mouse inoculated from this growth died in ten days with typical pathologic changes and spherule production.

On October 8 local irritating pruritis had developed around the site but there was no lymphadenopathy or lymphangitis. Two days later urticaria developed in the palms of both hands and then spread to all parts of the body. Antihistamine therapy did not alter the persistent urticaria, which lasted for six months. On the 32nd day the lesion,

TABLE 2.—*Cases of Accidental Cutaneous Coccidioidomycosis Recorded in the Literature*

Author and Year Reported	Sex Age Race	Site of Infection	Coccidioidin Skin Test Prior to Infection	Clinical Features	Precipitin and Complement Fixation	Specific Treatment Given	Outcome
Guy, Jacob,[1,2] 1926, 1927	Male, 36 yr.*	Pricked rt. thumb with cactus thorn	Test not available then	Ulcer with regional lymphangitis and lymphadenitis	Test not available then	None	Disseminated in six months
Wilson, Smith, Plunkett,[8] 1953	Male, 32 yr., White	Proximal phalanx rt. middle finger	Non-reactive	Same, plus fever and malaise	Pptin. 4+ in 1:10. C.F. 4+ in 1:2	None, except excision of lesion	Recovered except for persistent nodes
Trimble, Doucette,[6] 1956	Female, 29 yr., White	Middle phalanx lt. 3rd finger	Non-reactive	Ulcer with lymphangitis and lymphadenitis	Pptin. 4+ in 1:40. C.F. 2+ in 1.2	None except excision of lesion	Recovered except for persistent nodes
Wright, Newcomer, Nelson, Wilson,[7,9,10] 1959, 1960, 1963	Male, 29 yr., Japanese	Lt. index finger	Non-reactive	Same, plus fever and malaise	Pptin. 4+ in 1:10. C.F. 2+ in 1:2	None, except excision of lesion	Recovered except for persistent nodes
Harrell, Honeycutt,[3] 1963	Male, 18 yr., White	Punctured lt. thigh with cactus thorn	Non-reactive	Ulcer at punctured site and lymphadenopathy	C.F. Negative (done several months after injury)	None	Recovered except for persistent nodes
Tiggert (cited by Smith et al.),[5] 1961	............*	Deeply into a wrist bone	Reactive	Local lesion only	No record	None, except excision	Recovered after excision
Patient reported in this paper	Male, 49 yr., White	Lt. index finger	Reactive	Local lesion and urticaria	Pptin. ± undiluted. C.F. 4+ in 1:16	None. Excision done 32nd day for examination	Recovered

*Indicates respective data were not recorded.

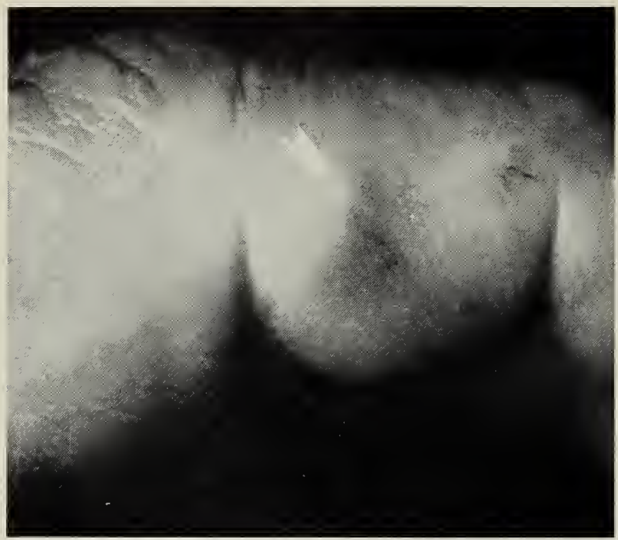

Figure 1.—Photograph of the lesion on finger (arrow) 32 days after inoculation.

a small granuloma, was photographed (Figure 1), and a biopsy specimen was taken from it. Half of the specimen was sectioned for histological examination and the remainder was ground and cultured on mycosel agar. The culture grew 33 colonies of "*C. immitis.*" The histologic report indicated an area in the corium in which there were strands of granulation tissue radiating between the bundles of collagen. Round cell infiltration was moderate and some areas had a few multi-nucleated giant cells.

Serologic tests for coccidioidal infection were carried out, beginning the fifth day after inoculation and at weekly intervals during the course of the infection (Table 1). The precipitin test was consistently negative. The complement fixation titer rose to 3+ at 1:16 dilution on the 25th day of infection and then fell to 3+ at 1:4 dilution on the 45th day. An x-ray film of the chest taken just before the accident was normal and there was no change in one taken at the end of the period of observation when the patient was well. Except for the generalized and prolonged urticaria and mild local lesion, there were no clinical manifestations. Because of the apparent dermal hypersensitivity manifested by the urticaria, no further skin tests were done.

TABLE 1.—*Complement Fixation Reactions in Present Case*

Weeks After Infection	Tube Dilution Results 1:2	1:4	1:8	1:16	1:32
1	2+	....	....	....	....
2	1+	....	....	....	....
3	4+	4+	....	....	....
4	4+	4+	4+	3+	....
5	4+	4+	4+	....	....
6	4+	4+	....	....	....
7	4+	3+	....	....	....

DISCUSSION

Of the six previously reported cases found in the literature, the first one was by Guy and Jacob.[1,2] Infection was through a cactus thorn prick in the finger. The second case was presented by Wilson and coworkers.[8] The skin as the portal of entry was well established. An interesting and complete report spanned the illness through recovery and four and a half years afterward. The authors presented criteria to be used in establishing that infection was by the cutaneous route. Trimble and Doucette[6] reported the third case, that of an accidentally infected microbiologist, and they compared features of the case with the criteria established by Wilson. In the fourth case, reported by Wright and coworkers,[9,10] a laboratory worker accidentally pricked his finger with an injection needle containing the tissue phase of "*C. immitis.*" Smith and coworkers[5] made mention, in a footnote, of a fifth case in which Tiggert observed a laboratory worker, who was known to have positive reaction to coccidioidin skin testing, accidentally inoculated himself deep into a wrist bone with a suspension of "*C. immitis*" arthrospores. Coccidioidal osteomyelitis developed and persisted until the lesion was excised. Thereafter recovery proceeded without further complication. The sixth case was reported by Harrell and Honeycutt.[3] While visiting in Arizona, the patient pricked his thigh with a cactus thorn. Cutaneous coccidioidomycosis developed at the site. Data on all these cases and the one herein reported are given in Table 2.

What Wilson considered to be the nine basic criteria for making the diagnosis of cutaneous coccidioidomycosis have correlated well with subsequent cases reported in persons who never before had had a primary infection in the lungs or elsewhere. More recently Wilson[7] suggested the classification *cutaneous (chancriform) syndrome* for cases of primary skin infection with "*C. immitis*" or any other fungus capable of causing deep mycosis when inoculated into normal persons not previously infected by that organism.

The classification did not anticipate the further possibility of a person's becoming infected subcutaneously after previously having had a primary (and perhaps not clinically recognized) immunizing infection. Salkin,[4] however, in his "Pathogenetic Classification of Coccidioidomycosis," did consider the reinfection phase, submitting the term "exogenous reinfection" in contrast to "endogenous reinfection," as in the case of a "residual primary nodule" becoming an "abscessing coccidioma" years after the primary infection. Until Smith cited the case observed by Tiggert there had been no reference to reinfection in an immune subject.

There being no further information about that case, the case herein reported is of interest since we had opportunity to observe the clinical and pathological developments during the course of infection. It can be seen from Table 2 that it differed from the five cutaneous (chancriform) syndrome cases in several respects and paralleled the one case of exogenous reinfection in a number of pertinent features.

1. In our case the stimulation of the immune response was more rapid. Complement-fixing titer began to rise within the first week, while in those cases in which the test was done for the other groups it did not begin to rise before five weeks, and in some cases never. In our case the antibodies reached a peak in four weeks and began to recede. No precipitins developed that we could observe, yet in the other cases tested the reaction for precipitins was positive in three to five weeks.

2. The coccidioidin skin test was positive before reinfection in both our case and Tiggert's. There is no evidence of a preexisting skin reaction in any of the other group.

3. The regional lymphatic system at the infection site was not involved. There was no evidence of lymphangitis or lymphadenopathy, nor were there any other systemic developments except urticaria.

4. The infection site was well localized and was only 2 mm in diameter.

Each of these observed differences suggests that because of the previous primary (although subclinical) infection, the patient in the present case had acquired immunological resistance to reinfection and that there existed an immediate defensive power which prevented the development of the cutaneous (chancriform) syndrome. It seems logical to accept the classification suggested by Salkin and refer to such infections as cutaneous exogenous reinfections.

SUMMARY

This report presents the second known case of accidental cutaneous coccidioidal infection occurring in an immune person, the features of the case conforming to those of "exogenous reinfection."

The findings in previously reported cases of cutaneous inoculation coccidioidomycosis have been briefly summarized.

Veterans Administration Hospital, 2615 Clinton Avenue, Fresno, California 93703 (Sorenson).

ACKNOWLEDGMENT: The authors are greatly indebted to Dr. Charles E. Smith, Dean, School of Public Health, University of California at Berkeley, for his assistance in performing the serological tests and for personal comments; and to Mrs. JoAnn Braze, Research Secretary, Fresno VA Hospital, for final preparation of the manuscript and illustrations.

REFERENCES

1. Guy, W. H., and Jacob, F. M.: Granuloma coccidioides, Arch. Derm. and Syph., 14:596, 1926.

2. Guy, W. H., and Jacob, F. M.: Granuloma coccidioides, Arch. Derm. and Syph., 16:308-311, 1927.

3. Harrell, E. R., and Honeycutt, W. M.: Coccidioidomycosis: A traveling fungus disease, Arch. Derm., 87:188-196, 1963.

4. Salkin, D.: Pathogenetic Classification of Coccidioidomycosis, Trans. 6th Ann. Meeting of VA-Armed Forces Coccidioidomycosis Cooperative Study held at Los Angeles, Calif., Nov. 30, 1961.

5. Smith, C. E., Pappagianis, D., Levine, H. B., and Saito, M. T.: Human coccidioidomycosis, Bact. Rev., 25:310-320, 1961.

6. Trimble, J. R., and Doucette, J.: Primary cutaneous coccidioidomycosis. Report of a case of laboratory infection, Arch. Derm., 74:405-410, 1956.

7. Wilson, J. W.: Cutaneous (chancriform) syndrome in deep mycoses, Arch. Derm., 87:81-85, 1963.

8. Wilson, J. W., Smith, C. E., and Plunkett, O. A.: Primary cutaneous coccidioidomycosis. Criteria for diagnosis and a report of a case, Calif. Med., 79:233-239, 1953.

9. Wilson, J. W., and Wright, E. T.: Cured primary cutaneous coccidioidomycosis, Arch. Derm., 81:300, 1960.

10. Wright, E. T., Newcomer, V. D., and Nelson, N. H.: Primary inoculation coccidioidomycosis, Arch. Derm., 79: 118-120, 1959.

REPORTS FROM THE Scientific Board

BOTULISM

THE OCCURRENCE of 44 cases of botulism in the United States in the past ten months reminds us that the physician still has to cope with this almost forgotten, rare poisoning.

The *Clostridium botulinum* spores are ubiquitous. The decline in botulism in the United States and Europe is the result of high standards in the food producing industries, education of the home food canner and perhaps the general decrease in the amount of home canning. If food contaminated with the spores is improperly canned, is allowed to stand for a time after it is opened and is eaten uncooked, it may cause botulism. Understerilized tinned food (for example, liver paste), inadequately cured smoked meat (white fish) or, more commonly, home-canned vegetables and fruit (processed in boiling water or in hot syrup without subsequent sterilization*) are prime causes of botulism.

The onset takes one of two forms: an initial acute gastrointestinal disturbance followed by typical botulism symptoms or typical botulism symptoms from the beginning. About a third of the patients have acute gastroenteritis, nausea, vomiting and diarrhea, usually beginning four to six hours after ingestion of the toxin and lasting about 12 to 36 hours. The acute gastroenteritis results from local irritation by the spoiled food; the typical botulism symptoms result from the action of the botulinum toxin upon certain portions of the peripheral nervous system.

The symptoms in botulism intoxication begin usually 18 to 36 hours after ingestion of the poison; they may appear very much earlier, in four to six hours, or they may be considerably delayed, occurring 96 or even up to 140 hours after ingestion.

Disturbance of vision is the first indication of serious illness in many cases. There may be initial scintillations and dimness of vision due to early loss of accommodation for near vision. There is early involvement of the third cranial nerve, and blepharoptosis, mydriasis, loss of reflex to light stimulation and diplopia are usual. Nystagmus and vertigo are not uncommon. Coincident with or closely following the visual disturbances are **difficulties in swallowing and talking.** There may be paralysis of the pharyngeal muscles. The voice is low and husky and the rate of speech is slowed. Swallowing is difficult and dryness of mouth and throat may induce strangling spells. **General weakness,** especially of the muscles of the neck, is striking. In severe cases the patients lie with the muscles completely relaxed and cannot raise arms or legs, apparently paralyzed.

A striking characteristic of botulinum intoxication is the **complete absence of sensory disturbances;** the patient does not have pain. Mentality usually remains clear until within a short time before death. **Restlessness, insomnia** and occasionally **hysterical attacks** are noted. Inhibition of the secretions is characteristic; tenacious mucus in the pharynx is usually removed with difficulty. Temperature is usually subnormal and the pulse rate slow in the early stages but rapid (100 to 120 per minute) later. The combination of subnormal temperature and rapid pulse is striking. There is no disturbance of respiration in the early stages, but toward the end breathing becomes difficult and labored. Later, as fatigue of the respiratory muscles develops, there may be complete asphyxia, and the immediate cause of death is respiratory failure. The blood pressure, and the type and number of blood cells are usually normal.

The diagnosis of botulism can be made from the symptoms. In most cases there is the history of ingestion of home-canned or improperly cured smoked food. The food may have had a rancid or slightly putrefactive odor or abnormal taste.

A statement from the Committee on Scientific Information of the Scientific Board, California Medical Association.

*From sea level to 3,000 feet, brisk boiling in an open pan for 10 minutes is recommended to neutralize whatever toxin may have been produced by the spores. For altitudes above 3,000 feet, longer periods of boiling—15 to 20 minutes—are recommended. Clumps of food should be broken apart by stirring so that the heat penetrates thoroughly.

The suspected food should be sent to the health department laboratory to be examined for toxin or the presence of *Cl. botulinum*. Toxin can be typed by using a type-specific antitoxin. Blood taken from some patients may contain enough toxin to kill mice on intraperitoneal inoculation.

The mortality from botulism in the United States has remained around 50 to 60 per cent because treatment is unsatisfactory. Antitoxin is frequently given too late. It is given in the hope that it may neutralize any toxin not already fixed. Persons other than the immediate patient who have eaten less of the toxic food and have not manifested symptoms early should be sought out and given antitoxin. Since *Cl. botulinum* types A and B are the most common toxin producers of the five known types in the United States, the commercially available* bivalent serum should be administered intramuscularly in doses of at least 50,000 units (there are 500 standard international units per ml of serum) after the patient has been tested for serum sensitivity. Cases of intoxication due to Type C and D are very rare, but those due to Type E connected with fish products have recently become more frequent. The monovalent antiserum prepared in Canada has a high antitoxin content and it proved beneficial in the treatment of four severely ill patients; all recovered.† Unfortunately the limited supply was exhausted during the recent outbreaks in Nashville and Knoxville. A quadrivalent Type A, B, E, and F antitoxin was imported from the Statens Serum Institute in Copenhagen. It contains four antitoxins, and the potency of E is not as high as in the Canadian serum. According to available record, the therapeutic efficacy was not striking. The Canadian Laboratory has resumed production of a monovalent Type E serum. Since Type F has not yet been found in North America, antitoxin for it is not needed.

In addition to specific treatment, other measures must be taken. The fluid balance must be maintained by parenteral administration. Intake of fluids or food by mouth must be discouraged in order to avoid the dangers of aspiration pneumonia. Saliva should be spit out by the patient or aspirated from the throat. The patients should be protected from unnecessary movements. Artificial respiration has been used, mostly without success.

Botulism can be avoided and prevented if (1) all home-canned vegetables and other non-acid food are thoroughly sterilized by boiling, as previously described, before use, (2) the hot pack method of home canning, even of acid fruits (tomatoes, apricots, peaches, figs) is abandoned and replaced by procedures outlined in the bulletins, "Home Canning of Vegetables"‡ and "Home Canning of Fruits," 1959 and 1960, issued by the University of California Agricultural Extension Service, Berkeley, California,§ (3) the people who can, cure or pickle foodstuffs at home are warned of the risk of botulism by vigorous and sustained education (useful pamphlets: "Beware of Botulism" and "If You Eat Home Canned Food, Read This," obtainable from the State of California Department of Public Health, 2151 Berkeley Way, Berkeley 4, California), and (4) commercial food technologists, before they market new varieties of food, learn through research and scrupulous plant practice to preserve and protect new varieties of food from botulism spoilage and toxin production.

Proper sterilization under pressure of properly closed tin cans or other containers has eliminated botulism from commercially manufactured food products. Spoilage of inadequately preserved or canned food is often so slight that unless the substance is heated before it is eaten, the repulsive odor of spoilage gases that warns of danger may not be strong enough to be noticed. Even if spoilage is not noticed, boiling of home-canned vegetables destroys the toxin that causes nerve damage, although the possibility the food will cause gastrointestinal distress may still exist.

The toxin produced by *Cl. botulinum* has not been found in foods preserved by freezing, probably because the ecologic balance that inhibits an overgrowth of the spores is not disturbed by freezing as it is by inadequate heat-processing methods. However, some question has been raised of late as to the safety of frozen fish.

Karl F. Meyer, M.D.
San Francisco
November 13, 1963

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*Lederle Laboratories, Pearl River, New York.

†Dolman and Iida, Canad. J. Pub. Health 1963, July, p. 293-308.

‡For meats, poultry, fish and all vegetables except tomatoes, temperatures above that of boiling water are required for processing. Hence steam under pressure must be used.

§Home canning should not be done at all except by methods such as those described in these booklets.

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EDITORIAL

Sulfonamide-Resistant Meningococci

EVER SINCE the early observations regarding the effectiveness of sulfonamides in the treatment and prophylaxis of meningococcus infections, these drugs have been regarded as the first and unfailing recourse in this disease. Some authorities have recommended the use, additionally, of penicillin, in case some strains might be resistant to sulfonamides —usually with the comment that resistant strains had escaped detection.

Recently Millar et al (J.A.M.A. 186:139, Oct. 12, 1963) reported the isolation of strains of meningococci which were resistant to sulfonamides and did not respond adequately to treatment with these drugs. Failures have been noted, especially in mass prophylaxis, with diminished effect in the reduction of carriers. Thus far, these results have not been encountered commonly in civilian populations but have occurred in military personnel, among whom chemoprophylaxis has been employed extensively.

Conceivably the use of mass prophylaxis may have been the very mechanism by which the emergence of resistant strains has been induced.

A disturbing possibility is that this information may lead clinicians to abandon the use of sulfadiazine and sulfasoxizole (Gantrisin®) completely and to rely on the use of penicillin alone in the treatment of these highly fatal and fulminant infections. Some strains of meningococci are resistant to penicillin. In a number of instances, some of which are a matter of my personal knowledge, the employment of the usual dosage of procaine penicillin in the treatment of unexplained fever has been followed in two or three days by progressive meningococcus disease, sometimes with petechiae and other evidences of meningococcemia.

The course of meningococcus disease does not usually provide, on the basis of sensitivity tests, the opportunity to determine the most appropriate drug for treatment. The diagnosis can be established often on immediate evidences which are as definitive as the results of bacteriological culture (petechial rash, profound toxemia, direct smears from petechial puncture or from the spinal fluid). The choice of an antimicrobial agent, thus, must be a matter of clinical empiricism, the agents most likely to be successful being promptly employed.

These infections constitute medical emergencies. Death or serious damage may result in a very few hours. There is no reason to debate the single best antibacterial agent; it is preferable to select a combination of drugs which can be given promptly with some assurance of success. Treatment usually should be by the intravenous route and, providing that reasonably generous amounts of intravenous fluid are given along with the therapeutic agent, medication is devoid of risks which are disproportionate to the mounting danger of the disease.

In the light of present knowledge, it would seem appropriate not to abandon sulfonamide therapy but to combine this with the use of penicillin. The use of procaine penicillin in doses of 300,000 to 600,000 units is inadequate: Along with adequate intravenous dosage of sodium sulfadiazine or sulfasoxizole (5 to 6 gm over a 24-hour period for adults), aqueous penicillin G in dosage of 20 million units in 24 hours should be given by continuous drip. Similar dosage should be continued for the next week, and then be gradually reduced in the ensuing few days.

EDWARD B. SHAW, M.D.

C.M.A.'s Audio-Digest— A Decade of Progress

IT HAS BEEN a full decade now since the House of Delegates of the C.M.A. adopted a local, small-scale experiment in continuing postgraduate medical education. The experiment's name: The Audio-Digest Foundation. Its avowed purposes: To provide the practicing physician with a convenient mode of continuing home and office postgraduate medical education, via a series of subscription tape recordings, and to contribute any accrued financial surpluses to the American Medical Association Education and Research Foundation or any other foundation devoted to similar objectives.

Since December of 1953, when Audio-Digest Foundation became an official non-profit subsidiary of the C.M.A., how well has this experiment succeeded? A critical review of the Foundation's progress over these ten years would indicate that it has not only been of inestimable assistance to physicians striving to keep up with medical progress, but has also added immeasurably to the prestige and image of the California Medical Association in all parts of the world. Among the impressive evidences of this:

Audio-Digest began with a handful of subscribers, most of them members of the C.M.A. Now, the subscription rolls have spilled out of California into all 50 states and into every corner of the globe: United States Army and Navy and the Department of State send them to such isolated stations as the South Pole and Saudi Arabia. The Christian Medical Society forwards the tapes to missionary physicians on duty in Africa and Borneo. And individual subscribers are scattered among such distant places as France, Haiti, Japan, Australia, New Zealand and Hong Kong. American Pharmaceutical Association traveling representatives even report seeing Audio-Digest boxes at the Pavlov Institute of Russia. And (perhaps to check up on what the Russians are hearing) the U. S. Central Intelligence Agency subscribes, as well.

In the past year, the University of Sydney (Australia) has been granted permission to use portions of the tapes for a newly-inaugurated closed-line medical education radio network that is heard each week by nearly 4,000 Australian physicians and surgeons.

From a beginning total of 13 original subscribers, Audio-Digest's monthly circulation has exploded to include more than 35,000 private physicians, hospitals, clinics and medical school teaching centers.

The Foundation began with a single weekly service shaped principally for general physicians. Because of physician demand, and the remarkable success of the original service, six additional subscription services have been added for the specialties of internal medicine, obstetrics and gynecology, pediatrics, surgery, anesthesiology and—just in the past few months—ophthalmology.

Audio-Digest tapes have been so unusual an addition to existing media of postgraduate medical education that the editors of *Time, Life, Saturday Evening Post, Reader's Digest,* and the *Wall Street Journal* have featured the service in full length articles. Special editorials in the country's most distinguished medical journals have called attention to the service, best exemplified perhaps by the *New England Journal of Medicine's* comment: "California is maintaining its reputation for doing things in a big way: high, wide, and handsome."

Audio-Digest could not have come to its present stature without the wisdom, the energy and force of direction that is supplied by personnel. Dr. Donald D. Lum of Alameda is president of the Audio-Digest Foundation, and Mr. K. L. Hamman of Oakland is treasurer. The Foundation's Trustees are Drs. Carl E. Anderson, Santa Rosa; Gordon Beckner and Thomas H. Brem, Los Angeles; James C. Doyle, Beverly Hills; William D. Evans, Los Angeles; Ivan C. Heron and Samuel R. Sherman, San Francisco; Robert L. Marsh, Glendale; John W. Pender, Palo Alto; and Omer W. Wheeler, Riverside. From the beginning the Audio-Digest enterprise has been dynamically directed and its programs produced by Mr. Claron L. Oakley, with assistance from Mr. Jerry L. Pettis, who first conceived the idea of postgraduate medical education by means of tape recordings.

In recognition of the medium's vast educational potential, more than 100 internationally-famed specialists have volunteered to serve on the Foundation's Editorial and Advisory Board. In addition, the nation's leading medical schools and specialty organizations have opened their doors to Audio-Digest to tape-record entire portions of their clinical meetings and postgraduate refresher courses for the purpose of sharing them with Foundation subscribers.

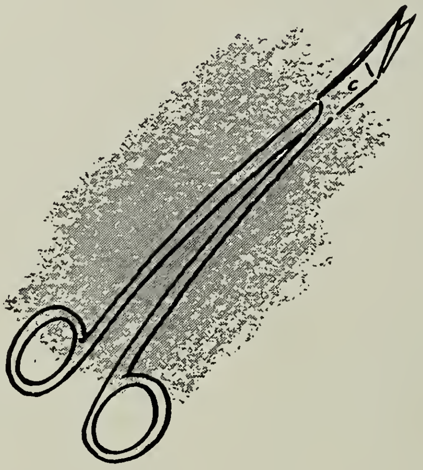
The kind of devotion Audio-Digest nurtures among its far-flung subscribers is evident in the fact that its annual renewal rate (over 80 per cent in some services and an average of 75 per cent for all seven services) is higher than most magazines and journals selling for as little as four dollars a year. This, despite the fact that an annual subscription to a specialty service costs the subscriber $73.35, and to the weekly general practice service $145.80.

The tapes are used across the country for weekly Journal Clubs of hospitals, county medical societies and small-town professional group meetings. They are heard by physicians while they shave in the morning; while they prepare for bed at night; while they work at their hobbies in a garage or den; even by one diligent Wyoming doctor in his airplane as he flies on house calls through the desolate Teton range. About one-fourth of the subscribers rig up their recorders to listen to the tapes in their automobiles.

The international prestige Audio-Digest is bringing to the C.M.A. is illustrated by a letter from the chief of surgery at the U. S. Naval Hospital at Yokosuka, Japan: "Not only we, but also our Japanese friends, gratefully receive Audio-Digest each week. We loan the tapes to several Japanese hospitals, then send them on to the American University in Beirut. Weekly Audio-Digest conferences have been set up at these Japanese hospitals, where approximately 150 doctors in small groups attend. The program has done a great deal to aid in professional relationships with our Japanese colleagues and has helped Japanese physicians in their study of medical English and American surgical thinking. Through these channels, Audio-Digest has aided in advancing toward the goal for which we are all working—namely, closer ties between the American and Japanese people."

From the medical director of the Agana (Guam) Memorial Hospital: "I deem it my duty to sit down today to pay a tribute to your excellent service. I can truthfully say that a few lives have been saved among my own patients because of your lectures by men like Champ Lyons and George Crile. . . . The wealth of information in each tape never fails to bring to my attention a diagnostic or therapeutic approach that, otherwise, I would have overlooked. The rewards are, literally, human lives saved."

Perhaps, in reviewing the Audio-Digest Foundation's unique accomplishments of the past decade, a letter from the Decatur and Mason City Hospital in Decatur, Ill., best sums up the place this service has made for itself in the esteem of its thousands of subscribers: "The staff and residents alike of our department send their sincere thanks for this service and their best wishes for its continued success. Believe me, the entire medical profession owes the California Medical Association a real unpayable debt for this significant contribution of Audio-Digest."



California MEDICAL ASSOCIATION

NOTICES & REPORTS

Council Meeting Minutes

Tentative Draft: Minutes of the 496th Meeting of the Council, Los Angeles, Airport Marina, November 16-17, 1963.

The meeting was called to order by Chairman Anderson in the Airport Marina Hotel, Los Angeles, on Saturday, November 16, 1963, at 9:30 a.m.

Roll Call:

Present were President Sherman, President-Elect Doyle, Speaker Quinn, Vice-Speaker Heron, Secretary Hosmer and Councilors MacLaggan, Wilson, Todd, Gooel, O'Neill, Bullock, O'Connor, Ham, Rogers, Dalton, Murray, Davis, Miller, Watts, Campbell, Kaiser, Anderson, Dozier, Grunigen, Cosentino and Shaw. Absent for cause, Editor Wilbur and Councilor Hudson.

A quorum present and acting.

Present by invitation were Messrs. Thomas, Clancy, Collins, Marvin, Whelan, Klutch, Clark, Tobitt, Bowman, Mrs. Griffith and Doctor Miller of C.M.A. Staff; Messrs. Hassard and Huber of legal counsel; Messrs. Read, Salisbury and Putnam of the Public Health League; county society executives Scheuber of Alameda-Contra Costa; Rideout of Butte-Glenn, Rosenthal of Forty First, Geisert of Kern, Dalbec and Field of Los Angeles; Blankfort of Marin, Colvin of Monterey, Sommerville of Napa, Bannister of Orange; Brayer of Riverside, Dochterman of Sacramento, Donmyer of San Bernardino, Nute of San Diego, Neick of San Francisco, Thompson of San Joaquin, Wood of San Mateo, Donovan of Santa Clara and Brown of Sonoma; and Doctors Dan O. Kilroy, Paul I. Hoagland, Donald A. Charnock, Justin J. Stein, Francis E. West, Warren L. Bostick and Packard Thurber, Jr.

1. Minutes for Approval:

On motion duly made and seconded, the minutes of the 495th Council meeting, held October 5, 1963, were voted approval.

2. Membership:

(a) A report of membership as of November 15, 1963, was presented and ordered filed.

(b) On motion duly made and seconded, 34 delinquent members, dues now paid, were voted reinstatement.

(c) On motion duly made and seconded in each instance, 15 applicants were voted Associate Membership. These were: Otto Hatschek, Paul F. O'Rourke, Alameda-Contra Costa; Theodore J. Kane, Los Angeles County; Rafael Canton, Abraham S. Linn, Napa County; John Francis McMullin, Riverside County; Garold Lafayette Faber, San Diego County; Philip Perloff, Norman Reider, David W. Wardell, San Francisco County; Robert D. Maurer, John Malloy, San Joaquin County; Mary I. Johanson, San Luis Obispo County; Jay Paxton Bartlett, Norman Bartram Nelson, Santa Clara County.

(d) On motion duly made and seconded in each instance, five members were voted Retired Membership. These were: Charles M. Cutshaw, Imperial County; Jerome Diamond, Los Angeles County; N. J. Michals, San Joaquin County; Karl F. Weiss, Tulare County; Earl H. Gray, Yolo County.

(e) On motion duly made and seconded, reductions of dues were voted for six members for reasons of illness or postgraduate study.

SAMUEL R. SHERMAN, M.D.	President
JAMES C. DOYLE, M.D.	President-Elect
WILLIAM F. QUINN, M.D.	Speaker
IVAN C. HERON, M.D.	Vice-Speaker
CARL E. ANDERSON, M.D.	Chairman of the Council
BURT L. DAVIS, M.D.	Vice-Chairman of the Council
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3. Reports of Officers:

President's Report

Doctor Sherman briefly reviewed his visits to component societies . . . mentioned that Department of Mental Hygiene has received grant to study manpower shortage in mental health facilities . . . read criteria for director for Department of Mental Hygiene drafted by Governor's advisory committee *(criteria were judged excellent by the Council)* . . . read resolution of appreciation from California College of Medicine for C.M.A. assistance; mentioned that two well-qualified candidates for dean of the college had been selected *(the Council voted endorsement of both)* . . . read letter dated November 12, 1963, from Hale Champion, Director of Department of Finance, expressing appreciation for help of C.M.A.'s committee and staff in preparing medical section of state schedule of maximum allowances for medical and related services. The schedule goes into effect January 1, 1964, using 1960 RVS as a basis. It will mean approximately $1 million more annually for physicians . . . read letter from Mrs. Emil Berger, President of California Association for Mental Health, requesting meeting with C.M.A. representatives to discuss future policies concerning mental health *(the Council voted that C.M.A. officers and Doctors Stuart Knox, chairman of C.M.A. Committee of Mental Health, give guidance to group)* . . . read letter of November 4, 1963, from Center for Treatment and Education on Alcoholism requesting C.M.A. favor appointment by State Personnel Board of physician rather than Ph.D. as Chief, Division of Alcoholic Rehabilitation, Department of Public Health *(the Council voted that such recommendation be transmitted to State Personnel Board, copy to the Governor)* . . . reported California Medical Education and Research Foundation recommended House of Delegates Resolution 36 be referred back to Bureau of Communications for implementation *(the Council so voted)* . . . reported that newspapers had cited Dr. Lewis T. Bullock as being spokesman for C.M.A. in his presentation of testimony prepared in behalf of the Los Angeles County Medical Association and given before the Senate Fact Finding Committee on Labor and Welfare in San Francisco on October 24 in its hearings on matters concerning the rates paid to nursing homes under the Medical Assistance for the Aged Program. He said that Dr. Bullock had telephoned him in advance of the hearing and discussed his testimony (which, Doctor Sherman said, he had not seen) with him and that he, Sherman, had told Doctor Bullock that the testimony seemed consistent with C.M.A. policy. Doctor Bullock then told the Council that he had not been authorized to represent the C.M.A. at the hearing but that he had presented the testimony as being approved by the C.M.A.

President-Elect's Report

Doctor James Doyle reported briefly on his visits to component socities and expressed his appreciation of the courtesies shown to him and Mrs. Doyle.

4. Committee on Committees:

(a) Recommended appointment to the Ad Hoc Committee on Overseas Medical Missions of the following physicians: Henry Bodner, Van Nuys; Pershing De Golia, Santa Rosa; William R. Murphy, Sacramento; and William H. Wickett, Jr., Chairman, Fullerton. (APPROVED)

(b) Recommended formation of Committee on Air Pollution. (APPROVED)

(c) Recommended appointment to the Committee on Air Pollution of the following physicians: Marvin S. Harris, Los Angeles; Francis M. Pottenger, Jr., Chairman, Monrovia; and Grace M. Talbot, San Francisco. (APPROVED)

(d) Recommended appointment of Doctor Francis West to the A.M.A. Committee on Medicine and Religion. (APPROVED)

(e) Recommended addition of Doctors Joseph Cosentino and Vincent Carroll to the Certification Review Committee as consultants. (APPROVED)

(f) Recommended appointment of Doctor Eli Layon to the Committee on Mediation and Medical Care Insurance to replace Doctor Donald Zavala. (APPROVED)

(g) Recommended formation of Committee on Adverse Reactions of Drugs, to serve under the Scientific Board. (APPROVED)

(h) Recommended appointment to Committee on Adverse Reactions of Drugs of the following physicians: Doctors Russell Tat, San Francisco; Ed Kenney, La Jolla; John Murray, chairman, Fresno; Ed Bloomquist, Glendale; Robert Cord, Santa Barbara; and Charles Cutler, Sacramento. (APPROVED)

5. Finance Committee:

(a) *Funding Revision of Relative Value Study*

SUMMARY: If broad revision of 1960 RVS is to begin during fiscal year 1964-65, current plans for that year's budget should include $6,000 to cover the costs, Doctor Burt Davis informed the Council.

ACTION: Voted that $6,000 be included in 1964-65 budget to cover costs of revising 1960 RVS.

(b) *Subsidy for Medical Library Mailing Services*

SUMMARY: Doctors Bullock and Elmer Gooel reported that cessation "without notification" of the C.M.A. subsidization of costs incurred by the LACMA medical library for mailings to C.M.A. members outside the LACMA jurisdiction (an item not included in C.M.A. budgets since 1961-62) had worked a hardship on the library. They requested restoration of such subsidy.

ACTION: Voted to aprove the contribution of C.M.A. funds to the Library of the Los Angeles County Medical Association, reinstating the funds which were deleted from the budget in the last two budgetary periods.

ACTION: Voted that Scientific Board be requested to look into the entire subject of medical library package services in California and report back to the Council as early as possible so that the Council and its Finance Committee can be guided in their budgetary considerations as to whether or not this contribution from C.M.A. to libraries should be continued in the forthcoming and future budgets.

ACTION: Voted that all disbursement of funds for any purpose shall be made through the central office of C.M.A. on basis of supporting information in accordance with procedures established by John F. Forbes & Co., the independent auditors retained by C.M.A.

6. Committee on Legislation:

REPORT: Doctor Dan Kilroy, chairman, reported that a total of 46 subjects of interest to medicine are being studied by legislative interim committees, and that all are being carefully watched by his committee and the Public Health League.

(a) *Policy on Nursing Home Rates*

SUMMARY: Dr. Kilroy asked for reiteration by the Council of the position of the C.M.A. concerning Assembly Resolution 47 relating to the adequacy of rates being paid nursing homes.

ACTION: Voted to reaffirm that C.M.A.'s concern is that rates should be adequate for quality nursing home care; that C.M.A. emphasizes accreditation as a means of raising the standards of care.

(b) *Public Concern Over Use of Pesticides*

SUMMARY: Legislative interest and concern has been aroused by publicity on the possible harmful effects of widespread use of pesticides in agriculture.

ACTION: Voted that a study of current, specific problems presented by pesticides be done by the Committee on Occupational Health, and that a study of the long-range implications be done by the Scientific Board.

7. Liaison to California Hospital Association:

REPORT: Doctor James MacLaggan, chairman, reported that 40 hospital staff requests for surveys under the Guilding Principles of Hospital-Physician Relationships are pending.

(a) *C.H.A.-C.M.A. Involvement in Local Hospital Problems*

SUMMARY: Doctor Carl Anderson reported that a request had been received from the Alameda-Contra Costa Medical Association for California Hospital Association and C.M.A. representatives to review problem existing between a Contra Costa hospital medical staff and the hospital governing board.

ACTION: Voted that it is appropriate for joint C.M.A.-C.H.A. committee to assist when requested by hospital administration, medical staff and the component medical society.

8. Ad Hoc Committee to Review Certification of Former D.O. Specialists:

REPORT: The committee, under the chairmanship of Doctor William Longmire, Jr., met November 14, 1963, and was informed that about 200 requests for certification review had been received from members of the 41st Medical Society who formerly were certified by specialty boards of the American Osteopathic Association. The next meeting of this committee was set for January 26, 1964.

(a) *Continuation of Committee*

SUMMARY: The Council was informed that the Los Angeles County Medical Association Council had directed LACMA C.M.A. Councilors to oppose continuation of this committee. On request, Mr. Hassard cited the unification agreement (approved by the C.M.A. and the California Osteopathic Association Houses of Delegates) clause relating to specialist evaluation, as follows:

"The California Medical Association agrees that the California Osteopathic Association may continue for the purpose of serving its own members, such specialty and other evaluation groups as may have been established by it on or before April 1, 1961, and whose criteria shall be not less than those shown in a separate document entitled 'Criteria of Evaluation Groups, California Osteopathic Association' heretofore delivered to the C.M.A. by the C.O.A. All records of such evaluation and specialty groups shall be made available to the Commission on Medical Education of the C.M.A. for examination and review."

It was further stated that the ad hoc committee was created some time ago to explore with national specialty boards ways and means to achieve current evaluation of members of the 41st Medical Society and that the present committee was created on recommendations from the ad hoc group.

ACTION: Motion to discharge the committee and to request the House of Delegates to consider the entire matter was defeated.

(b) *Review of Committee's Instructions*

SUMMARY: Instructions governing the committee's functions that had been approved by the Council at its August 24, 1963, meeting were reviewed. These were:

1. That the Council of the C.M.A. create a committee composed of diplomates of various specialty boards approved by the Advisory Board of Medical Specialties, with Consultants from the 41st Medical Society, to review the qualifications of former Osteopathic specialists.

2. That all members of the C.M.A. who were former Osteopathic physicians and surgeons be notified that they have 90 days to submit evidence of former specialist's certification, together with their record of study, training, and experience which served as the basis for this certification.

3. The Committee will review this information and recommend to the Council, or its designated Committee, whether or not further specialist recognition is indicated.

4. If specialist recognition is recommended and approved by the Council, or its designated Committee, the following certificate would be issued:

CERTIFICATION COMMITTEE OF CALIFORNIA
after a review of the qualifications of
______________________________M.D.
validates his certificate in the field of
GENERAL SURGERY

General discussion ensued concerning the propriety of the C.M.A. acting as a certification body, a function embodied within the wording of the above instructions.

ACTION: After a motion to table was lost, it was voted to revise the instructions by deleting item 3 entirely and revising item 4 to read as follows: "If specialist recognition is approved, the following or similar certificate would be issued:"

9. Commission on Public Agencies:

(a) *Recognition of Nurse-Obstetrical Assistants*

SUMMARY: The Department of Public Health had requested C.M.A. approval of extension to three other areas of a pilot program in Madera County of nurse-obstetrics under medical supervision. The Commission on Public Agencies had recommended such approval to the Council at its preceding meeting, but the matter had been tabled. Doctor MacLaggan requested that it be taken from the table for further discussion and action. (SO VOTED) Discussion developed around the theme that growth of nurse-obstetrics could lead to another level of licensing.

ACTION: Motion to approve defeated.

ACTION: Voted that C.M.A. encourage the training of obstetrical nurses and nurse-supervisors by hospitals and nursing schools.

ACTION: Voted that standing policy be that no one other than a physician should be responsible for deliveries.

10. Commission on Community Health Services:

REPORT: The Commission's report had been distributed to members of the Council November 5. Council approval was given to three recommendations:

1. That the Committee on Occupational Health explore areas of liaison with labor organizations concerning health matters.

2. That recommendations by the Committee on the Medical Aspects of Sports to assist in safeguarding the health of boxers be approved and transmitted to the State Athletic Commission, and

3. That House of Delegates Resolution 34 urging appropriate state action liberalizing regulations governing attendance of physicians at high school athletic contests be implemented by Council.

11. Commission on Professional Welfare:

(a) *C.M.A. Retirement Plan under Keogh Law*

SUMMARY: Mr. Hassard discussed the status of the proposed C.M.A. Retirement Plan based on the Keogh Law covering self-employed persons and submitted four major points requiring Council approval before the plan could become effective. He explained that should the Council action be favorable, it then would be necessary to submit the documentary details of the plan to the Internal Revenue Service for its approval. He said that such IRS approval was anticipated but that it might be delayed due to IRS backlog of requests; however, IRS could make its approval retroactive to cover participants joining the plan before December 31, 1963.

ACTION: Voted to accept the Wells Fargo Bank as Plan Trustee.

ACTION: Voted to approve the C.M.A. Members' Retirement Plan.

ACTION: Voted to approve the C.M.A. Members' Retirement Trust.

ACTION: Voted that the President or Chairman of the Council were authorized to execute, on behalf of C.M.A., any and all documents required by the Plan.

12. Scientific Board:

(a) *Education of Paramedical Groups*

SUMMARY: House of Delegates Resolutions 20 and 92 had been referred to Scientific Board for consideration. They concern the education and the coordination of education of paramedical groups, including medical laboratory technicians. Doctor Edward B. Shaw, chairman, said that the Board recommended appointment by Council of a special committee including educators and physicians (the latter including users of paramedical services) to study this matter.

ACTION: Voted that the Committee on Committees, in consultation with Scientific Board nominate such a committee.

(b) *Augmented Publicity on Annual Session*

SUMMARY: Doctor Shaw asked, that in view of the excellent program on immunology arranged for the annual session next March, he be authorized to seek an augmentation of newspaper, radio and television coverage of the event. (APPROVED)

(c) *State Regulations on Delivery Rooms, Formulas*

SUMMARY: The Hospital Advisory Council to the State Board of Health is considering a request to change present regulations to permit (a) fathers in delivery rooms, and (b) use of disposable unit formulas. Recommendations of the Scientific Board, based on recommendations of the Committee on Maternal and Child Care, were approved as follows:

ACTION: Voted to recommend no change in present regulations which ban fathers from delivery rooms.

ACTION: Voted to recommend change in regulations to permit hospitals to use prepared, disposable-unit formulas.

13. California Physicians' Service:

REPORT: Doctor Paul I. Hoagland, chairman of the C.P.S. Board of Trustees, said that there is a 5% increase in the number of federal employees who have adopted C.P.S. coverage . . . On January 1, 1964, Schedule "D" goes into effect for all federal employees under C.P.S. . . . by that same date 65% of all C.P.S. contracts will be using the 1960 RVS . . . Santa Barbara's pilot study experience is favorable in all aspects and plan is "in the black."

(a) *Uniformity of Income Ceiling, Schedule "D"*

SUMMARY: Doctor Hoagland pointed out that Schedule "D" contracts written on "national" groups (i.e., federal employees working in California) have carried a $7,500 income ceiling, whereas other Schedule "D" contracts (in the minority in number of persons covered) were at a $7,200 ceiling. He asked that the ceiling for all "D" contracts be set at $7.500.

ACTION: Voted that the income ceiling on Schedule "D" be uniformly established at $7,500 for all persons covered by it.

14. Commission on Medical Services:

REPORT: Doctor John Murray said that the Fee Committee will not complete its current revisions of the 1960 RVS until next February or March.

15. Woman's Auxiliary:

CITATION: A resolution was presented to the Council from the Woman's Auxiliary, adopted during its Fall Conference September 26, 1963, expressing gratitude and appreciation for the valuable and helpful advice received from C.M.A. officers and staff.

16. Medical Discipline:

REPORT: Doctors MacLaggan, Kilroy, Donald Charnock and Frank West and Mr. Hassard outlined various legislative and other proposals to increase disciplinary powers of the Board of Medical Examiners or to create a special disciplinary board. One legislative proposal is patterned after a State of Washington law. Doctor West, chairman of the Board of Medical Examiners, said that the Legislature would be amenable to the C.M.A. submitting its suggestions on a similar law for California.

Doctor West said that the Board felt a need for careful study of three areas concerning disciplinary powers:

1. The power to issue or revoke a license, the power to restrict or censure a licentiate.
2. Improvement in disciplinary controls by hospital staffs to prevent a physician practicing beyond his capacity.
3. Office practice, particularly as related to insurance cases.

ACTION: Voted to appoint special committee to study and make recommendations on the policy C.M.A. should adopt regarding further disciplinary legislation.

17. Role of C.M.A. in Medical Education:

REPORT: Doctors Justin J. Stein and Malcolm Watts comprehensively detailed status of medical education in general and the specific problems it faces . . . concerning foreign graduates, consensus was that requirements for them should be increased rather than reduced, except perhaps in the instance of exceptional teachers here for a limited time . . . everything possible should be done to strengthen private medical schools financially . . . full support should be given California College of Medicine.

18. Workmen's Compensation Study:

(a) *Policy Position for C.M.A. on Workmen's Compensation*

SUMMARY: An extensive study is being undertaken by the Governor's Workmen's Compensation Study Commission, at the direction of the legislature, into all aspects of the workmen's compensation law.

Some of these of possible immediate concern to the C.M.A. include:

1. Worker's right to choose a physician.
2. Vocational rehabilitation facilities.
3. Role of the C.M.A. in providing information on fees.

ACTION: Voted that the C.M.A. policy favors the right of worker to initially choose the licensed physician who will treat him; that the carrier or employer, on proper medical advice, may provide new physician if warranted.

ACTION: Voted that the C.M.A. policy favors early availability of rehabilitation services in treatment of injured workers; that the Committee on Occupational Health study this and recommend a precise C.M.A. policy on this matter.

ACTION: Voted that C.M.A. spokesmen be empowered to use data available which reflect median fees being charged, pointing out there are wide variances in usual and customary fees; pointing out also that fee schedules should be reviewed frequently and adjusted as indicated.

19. Aged and Public Medical Care:

(a) *Recommendations Concerning Medical Assistance for the Aged*

SUMMARY: A statement presented on behalf of the Los Angeles County Medical Association by Doctor Lewis Bullock before the Senate Fact Finding Committee on Labor and Welfare October 24, 1963, had been supplied to all members of the Council. The statement concerned administration of the Kerr-Mills Law through the Rattigan Act in California providing Medical Assistance for the Aged.

The question was raised that perhaps the C.M.A. might adopt the recommendations concerning administration of M.A.A. embodied within Doctor Bullock's statement. These recommendations were considered individually.

ACTION: After some revisions and modifications, the following eight points were approved:

1. That the Department of Social Welfare be urged to cease and desist from providing medical care with M.A.A. funds for citizens who have recently been recipients of Old Age Security.

2. That the Rattigan Act be amended to read, "to meet the health needs of aged persons who are not *and have not recently been* recipients of Old Age Security."

3. That the Rattigan Act be amended to read that its purpose is "to furnish medical assistance on behalf of *aged individuals* who are not (and have not recently been) recipients of Old Age Assistance, but whose income and resources are insufficient to meet the costs of necessary medical services."

4. That the requirement that a patient spend a month in a private hospital before becoming eligible for Kerr-Mills funds be eliminated.

5. That the requirement that a patient in a private hospital pay $2,000 before becoming eligible for Kerr-Mills funds be eliminated, and that the criterion be that point in the payment for private care when the individual's income and resources become insufficient to meet the costs of necessary medical services.

6. That the time a private patient spends with his own finances in a private hospital before he becomes eligible for Kerr-Mills assistance, be reduced at least to, or preferably below, the time an indigent spends in a county hospital before the County Treasury becomes eligible for compensation for his care.

7. That the fees paid to private hospitals for M.A.A. patients be at least adequate to meet the costs of providing the services, and that they be no less than the fees paid by other state agencies for the same service.

8. As soon as feasible, the insurance principles should be extended to the administration of medical care under the M.A.A. program.

It was moved, seconded and voted that the officers and committees be requested to take all possible action to implement these recommendations.

20. Pooling of Insurance Carriers:

SUMMARY: It was agreed that extension of voluntary health insurance through the pooling of insurance carriers and other means should continue to be actively supported by C.M.A.

21. Accreditation of Nursing Homes:

SUMMARY: The program of the California Commission on Accreditation of Nursing Homes and Related Facilities is not expanding as rapidly as had been anticipated. Some confusion has arisen due to announcement in June, 1963, of establishment of a national accreditation program for nursing homes by the A.M.A. and the American Nursing Home Association. There is a possibility the latter may request cessation of the C.M.A. program and its replacement by the national program.

ACTION: Voted that C.M.A. continue to support and participate in the current California program and to urge all nursing homes to become accredited by this organization; that component societies be requested to give active support.

22. Medical Problems of Migratory Workers:

(a) *Policy Position for CMERF and BRP*

SUMMARY: The State Department of Public Health has pending a proposal for a feasibility study of medical problems of migratory workers, and has requested C.M.A.'s Bureau of Research and Planning to participate.

ACTION: Voted to inform State Department of Public Health that C.M.A. declines to participate in the proposed format, but prefers the outline previously submitted to Health, Education and Welfare by the California Medical Education and Research Foundation.

Recessed: 10:30 p.m., November 16, 1963.

Reconvened: 10:00 a.m., November 17, 1963.

23. Bureau on Communications:

REPORT: Doctor Warren Bostick, chairman, presented a summary of BUCOM's activities in a slide-illustrated talk and outlined broad policy goals. He described the preliminary plans of the Inter-Agency Council on Smoking, which includes American Cancer Society, California Heart Association, State Tuberculosis Association, Department of Education, State Department of Health and the C.M.A. He requested authorization for continued participation in this group's activities by the C.M.A.

ACTION: Voted that C.M.A. should continue such participation.

24. Internal Communications on Legislation:

REPORT: Problems of reaching the membership with matters concerning governmental activities affecting medicine were discussed by Doctor Malcolm Todd, chairman of the California Volunteers for the American Medical Political Action Committee and Mr. Ben Read, executive director of the Public Health League.

ACTION: Voted to ask the Medical Executives Conference to study improved means of reaching the "grass roots" of medicine with information concerning legislative matters; that special consultation be held with the elected secretaries of component societies not having executive secretaries.

25. Guiding Principles for Physician-Hospital Relationships:

(a) *Further Implementation of the Program*

SUMMARY: Doctor MacLaggan, pointing out the backlog of 40 staff requests for surveys and reviewing the time required to organize and conduct such surveys, recommended that the C.M.A. employ an individual, preferably a physician, to coordinate this endeavor.

ACTION: Voted that the executive director be authorized to consider and employ such a person at his discretion.

(b) *Distribution of Survey Responsibilities*

SUMMARY: Doctor MacLaggan described the difficulty of covering the entire state in such surveys using only the members of the Liaison Committee to the California Hospital Association.

ACTION: Voted to permit use of physicians other than members of the Liaison Committee to assist in some surveys when additional assistance is needed.

26. Review of Council Agenda and Procedures:

SUMMARY: Discussion touched on many facets of Council procedure. Consideration was given to the present structuring of the Council on a basis proportionate to membership and to the possibility of revising this formula . . . to the matter of invited guests and reports by them . . . to perhaps more detailed reporting of the Council minutes . . . to more detailed advance information on agenda matters . . . to means of more adequately anticipating time for discussion of local councilor district matters . . . of perhaps verbatim tape-recording of Council meetings.

ACTION: Voted that the chairman appoint an ad hoc committee on Council Procedures to make recommendations on all matters pertaining to Council efficiency.

ACTION: Voted that representatives of affiliated organizations be kept informed that they are welcome to attend all Council meetings, but that they need not make reports except on specific invitation of the Committee on Emergency Action and staff or if they wish to initiate such action by prior information to the C.M.A.

ACTION: Voted to tape-record and use public address equipment for the next meeting of the Council.

Adjourned: 1:05 p.m., November 17, 1963.

CARL E. ANDERSON, M.D., *Chairman*
MATTHEW N. HOSMER, M.D., *Secretary*

Kerr-Mills Administration in California

SAMUEL R. SHERMAN, M.D.*

I APPRECIATE this opportunity to appear before you and present the views of the California Medical Association on the various subjects you have listed on your agenda concerning implementation of the Rattigan-Burton Act in California.

My name is Samuel R. Sherman, and I practice medicine in San Francisco. I am president of the California Medical Association and former chairman of the Council of the Association. I have also been a member of the Medical Care Advisory Committee to the State Department of Social Welfare since its inception in 1957, and have been chairman of that committee for over two years.

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*A statement by the President of the California Medical Association, before the California Senate Fact Finding Committee on Labor and Welfare, December 12, 1963.

I have read the transcript of the hearings held on October 24, 1963, in San Francisco. I hope I can clarify and more sharply define some of the issues discussed with you at that time, in order that the position of the California Medical Association may be clearly understood. I am aware, as you are, of the events leading up to the enactment of the Rattigan-Burton Act and subsequent amendments. The history of this program outlined by the associate administrative analyst, Mr. Vonn Damm, is brief and concise. I would like to add, however, that after the passage of Kerr-Mills and before the Rattigan-Burton Act was written, we proposed to a special committee that was established to study and recommend ways to implement Kerr-Mills in California, that broad coverage prepaid health insurance should be provided for those eligible for Medical Assistance for the Aged. A special proposal by California Physicians' Service was presented to this committee.

The legislative proposal that was finally presented — the Rattigan-Burton Bill — was understood by all to be a first step toward implementation of the Kerr-Mills Law. It was the best compromise available at the time. No one knew, for instance, how large a group of people might need assistance. As has been stated before, this bill, which later became law, recognized that the most costly care confronting the greatest number of people over 65, was long-term, chronic care in hospitals and nursing homes. The old definition of acute care was that requiring less than 30 days' confinement; chronic care was defined as that requiring 30 or more days of confinement. The bill that was finally enacted did provide a very broad and comprehensive program for this particular area of need.

If, in any way, the impression has been created that the people who carry out the mandate of the legislature have been less than energetic in implementing it, or are unsympathetic to it, I want to say without hesitation, I do not share this view. The personnel of the State Department of Finance and the State Department of Social Welfare, and the county welfare departments, are a dedicated and devoted group of public servants, trying their best within the framework of the laws and regulations under which this program operates, to administer it for the benefit of those who need help. There may be differences of opinion, but there can be no room for suspicion or rancor when people of good will undertake a common cause.

During the first twelve months that this program was in operation, it provided hospital and nursing home care for 27,539 different persons; 23.8 per cent of those helped were not receiving public assistance of any type. It is fair to say that the new group of people intended to be covered by Kerr-Mills, constituted no more than 23.8 per cent of those who received care under the Rattigan-Burton Act during the first twelve months of its operation.

As a result of the experience under the Rattigan-Burton Act during the first year, the California Medical Association recommended that the eligibility requirements pertaining to personal property holdings be expanded to include more people who ought to be eligible for care under Kerr-Mills. C.M.A. also requested that provision be made to pay for acute as well as chronic care; i.e., that the 30-day waiting period be repealed and, in its stead, a dollar deductible be adopted. It was suggested that this dollar deductible might be somewhere in the area of $300 to $500. A statement containing these recommendations was made to the Assembly Committee on Social Welfare in December of 1962.

The 1963 session of the legislature amended the Rattigan-Burton Act by adopting Assembly Bill No. 59. This Act makes payment for acute care available in county hospitals from the first day of admission, but does not make provision for payment of such care in voluntary hospitals until after 30 days of confinement or the expenditure of $2,000.

Gentlemen, I feel this is special legislation, inducing, if not forcing, people to obtain governmentalized medical care. It is discriminatory. It violates the original concept of the law which allowed free choice of facility.

Further, the effect of this law was to provide a large windfall to those counties having a county hospital. In other words, counties were already obligated to provide hospital care for welfare recipients 65 and over and were now enabled to recoup from the Federal Government one-half the cost of that care. Most of this windfall was to be used to make more money available for the recipients of Aid to Children of Dependent Families. While the latter program is a very laudable one, it has nothing to do with providing medical care for those 65 and over who are able to care for their ordinary needs but not for extensive medical expenses. In essence, this is denying care for Peter in order to provide care for Paul.

Let me give you another example of taking care of other groups with MAA funds. Admittedly, some of the older people in mental health facilities need not be there and could be cared for in nursing homes. When they are in mental health facilities, the state is obligated to pay for their care. It is now proposed that those who are 65 and over be shifted to and made eligible for, Medical Assistance for the Aged and be placed in nursing homes. As they have already spent 30 days in a hospital, care would be paid for from the first day of confinement in a nursing home. One-quarter of the cost would be paid by the state, instead of the whole cost of their care; the counties would pay one-quarter, instead of none; and the Federal Government would pay one-half. I submit that the congressional intent of Kerr-Mills was stretched almost to the breaking point by the unique and imaginative approaches outlined above. The amendments contained in Assembly Bill No. 59 really did not provide payment for medical care needs of the new group which Congress tried to provide for under Kerr-Mills, except to a very slight degree. It is the failure to provide care for this group that I want particularly to emphasize.

This committee and others have raised the question, is this type of implementation — this shifting of a substantial part of the OAS load to MAA — consistent with the intent of Congress as expressed in Kerr-Mills? Technically and in a narrow sense, this is a legal question and I am not competent to answer it for I am a physician, not a lawyer. From all I have read and heard, I think it is factual to say, as the lawyers put it, there seems to be a split of opinion. Problems concerning administration also complicate this matter.

Items 2(b) and 2(c) of your agenda, it seems to me, call for a *practical reexamination of this problem* rather than a technical, legalistic approach to it, and I think this is important.

Item 2(c) asks, "Should Medical Assistance for the Aged be amended to meet the medical needs of our aged persons with greater economical means, and if so, how?" I take it that this refers to those individuals who are not on welfare. This question must be answered in the affirmative. To me, it is the real heart and core of the problem.

Item 2(b) asks the question, "Should the simultaneous receipt or shifting of Medical Assistance for the Aged, Aid to the Blind, Aid to the Disabled and OAS, be permitted?" If something isn't done about 2(c), extending care to the medically indigent, then question 2(b) definitely must be answered "no."

The C.M.A. favors providing for payment of the extensive medical care needs for the new group of people described in Kerr-Mills — those who are otherwise able to take care of themselves. I believe that the legislature also is in favor of gradually providing care for this group. So far, the only care provided has been tied to the needy aged. We should make payment for medical care available to the low-middle income group. The personal property limitation needs to be amended and revised. For MAA recipients, the amount of personal property reserve ought to be raised from $1200 for a single person to $3600 or $5,000, and for a married couple from $2,000 to $5,000 or $10,000. Sufficient income to pay for extensive medical care needs should be the principal criteria. Until this problem of eligibility is grappled with, whatever redirection of the program you recommend will be virtually ineffective as far as helping this new group is concerned.

If this concept of assistance for this new group is not implemented, the whole program that was started with such great hope goes sadly awry, at least as it relates to those it was primarily intended to cover, and it ought therefore to be abandoned. On November 16, 1963, the California Medical Association Council adopted the following recommendations to be presented to this committee:

1. That the Department of Social Welfare be urged to cease and desist from providing medical care with MAA funds for citizens who have recently been recipients of Old Age Security.

2. That the Rattigan Act be amended to read, "to meet the health needs of aged persons who are not *and have not recently been* recipients of Old Age Security."

3. That the Rattigan Act be amended to read that its purpose is "to furnish medical assistance on behalf of *aged individuals* who are not (and have not recently been) recipients of Old Age Assistance, but whose income and resources are insufficient to meet the costs of necessary medical services."

4. That the requirement that a patient spend a month in a private hospital before becoming eligible for Kerr-Mills funds be eliminated.

5. That the requirement that a patient in a private hospital pay $2,000 before becoming eligible for Kerr-Mills funds be eliminated, and that the criterion be that point in the payment for private care when the individual's income and resources become insufficient to meet the costs of necessary medical services.

6. That the time a private patient spends with his own finances in a private hospital before he becomes eligible for Kerr-Mills assistance, be reduced to, or preferably below, the time an indigent spends in a county hospital before the County Treasury becomes eligible for compensation for his care.

7. That the fees paid to private hospitals for MAA patients be at least adequate to meet the costs of providing the services, and that they be no less than the fees paid by other state agencies for the same service.

8. As soon as feasible, the insurance principles should be extended to the administration of medical care under the MAA program.

If, however, the California law is amended so as to provide care for this new group both in nursing homes and in hospitals, then the true intent of the Kerr-Mills Law would be served, and until Congress provides more adequate matching medical care funds for OAS, I personally would not oppose the same level of matching funds for the needy as for the near-needy.

We have proposed before that a reasonable dollar deductible be used instead of 30 days' confinement in a hospital or nursing home, as a condition of eligibility. The present $2,000 "corridor" is completely unrealistic when one realizes that it is required of a person who cannot have $1200 worth of personal property including money in the bank. If payment for the first day of care is to be provided in county hospitals, it should also be provided in voluntary hospitals.

You have taken much testimony on the matter of adequate rates. We most emphatically support the concept that the state ought to allow the payment of adequate rates to hospitals, nursing homes, dentists, physicians and others, in order to assure the availability of quality care. This is a complex problem and the legislature needs to become involved with it. We can all agree that the highest-cost facilities, such as a single hospital room for all cases, need not be provided. At the same time, the rate structure should not be tied to the lowest available. This matter calls for a policy decision by the legislature, to direct that the usual or prevailing rates be paid.

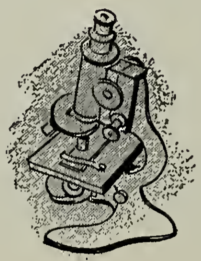
Some people will say that the things I am recommending will cost money and the governor is committed to a policy of no increase in state taxes. You are entitled to know our position on this matter of taxes.

In general, we are not in favor of high taxes, but we are in favor of taxes to provide sufficient money to take care of the health needs of the needy and the near-needy aged. If more taxes will be required, let's provide them. In a letter to me recently, Mr. J. M. Wedemeyer, director of the Department of Social Welfare, estimated that to provide free choice of hospital for acute care under the present law, using a $500 deductible, the program might cost six million dollars a year. This would mean a million-and-a-half dollars of state money, the same amount from the counties and three million dollars from the Federal Government. I would hope that Governor Brown might be convinced that he should favor such a comparatively small expenditure. The newspapers report that last month he told the House Ways and Means Committee that they should increase the taxes on all working people and employers to the extent of one-half of one per cent in order to provide nursing home and hospital care for all people 65 and over. This would take out of California over 200 million dollars. It is hard for me to understand why it is right to advocate a 200 million dollar federal tax on Californians and wrong to seek to raise one-and-a-half million dollars in state taxes. Why is it urgent to pay for hospital care for all persons 65 and over through federal taxation, whether or not they need assistance, but not urgent to help, at state level with matching federal funds, those who need some assistance when confronted with a large hospital bill?

In conclusion, I want to recommend again the use of broad coverage, prepaid health insurance for MAA beneficiaries, particularly those needing acute hospital care. Almost three-fourths of the population of this country possesses health insurance. The legislature has provided it for state employees; mechanisms are already established to administer it. Its use by MAA recipients would ensure the provision of the same type of care, service and rates as are received by others in the community. The one area in which voluntary health insurance has had its greatest experience, is in hospital coverage. The county welfare department need not concern itself with this administrative function.

This year saw the beginning, on a pilot basis for the recipients of public assistance care in Santa Barbara County, of the use of the prepaid mechanism, underwritten by the physicians of that county and California Physicians' Service. More than two-thirds of the physicians in the county provide professional services to the welfare recipients. The program is operating successfully and administrative costs are reported as being kept at a minimum. The Welfare Study Commission has recommended the extension of the use of broad coverage health insurance.

May I again express my appreciation to you for the opportunity to discuss these most important matters. I would welcome any questions you might have.



In Memoriam

Bolkovatz, Joseph Francis, Fresno. Died November 16, 1963, in Fresno, aged 58, of heart disease. Graduate of Creighton University School of Medicine, Omaha, Nebraska, 1929. Licensed in California in 1934. Doctor Bolkovatz was a member of the Fresno County Medical Society.

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Buchanan, George W., Burbank. Died November 9, 1963, in Pasadena, aged 65, of an acute coronary. Graduate of the University of Pennsylvania School of Medicine, Philadelphia, 1926. Licensed in California in 1936. Doctor Buchanan was a member of the Los Angeles County Medical Association.

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Casper, Ervin J., Vallejo. Died November 28, 1963, in San Francisco, aged 75. Graduate of the College of Medical Evangelists, Loma Linda-Los Angeles, 1912. Licensed in California in 1912. Doctor Casper was a retired member of the Solano County Medical Society and the California Medical Association, and an associate member of the American Medical Association.

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Chapman, Herbert Samuel, Stockton. Died November 14, 1963, in Stockton, aged 71. Graduate of Stanford University School of Medicine, Palo Alto-San Francisco, 1918. Licensed in California in 1920. Doctor Chapman was a retired member of the San Joaquin County Medical Society and the California Medical Association, and an associate member of the American Medical Association.

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Fernandez, Ramiro V., La Habra. Died November 8, 1963, in Fullerton, aged 54, of heart disease. Graduate of St. Louis University School of Medicine, 1935. Licensed in California in 1936. Doctor Fernandez was a member of the Orange County Medical Association.

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Forster, Linn Humphrey, Fresno. Died July 5, 1963, aged 37. Graduate of Albany Medical College, New York, 1953. Licensed in California in 1960. Doctor Forster was a member of the Fresno County Medical Society.

◆

Garland, Jay Otto, Long Beach. Died November 14, 1963, in Los Angeles, aged 70, of myocardial infarction. Graduate of Howard University College of Medicine, Washington, D.C., 1925. Licensed in California in 1946. Doctor Garland was a member of the Los Angeles County Medical Association.

◆

Haet, Martin Edwin, Pago Pago, American Samoa. Died in a swimming accident, November 24, 1963, in Pago Pago, American Samoa, aged 40. Graduate of Universität Heidelberg Medizinische Fakultät, Baden, Germany, 1954. Licensed in California in 1956. Doctor Haet was a member of the Los Angeles County Medical Association.

◆

Martin, Thomas Reynold, Dallas, Texas. Died October 25, 1963, in Dallas, Texas, aged 67. Graduate of the University of Oklahoma School of Medicine, Oklahoma City, 1928. Licensed in California in 1928. Doctor Martin was a retired member of the Los Angeles County Medical Association and the California Medical Association, and an associate member of the American Medical Association.

◆

Morris, Harold R., Redlands. Died November 26, 1963, in Redlands, aged 51. Graduate of Rush Medical College, Chicago, Illinois, 1938. Licensed in California in 1946. Doctor Morris was a member of the San Bernardino County Medical Society.

◆

Ruff, Robert Franklin, Lynwood. Died November 19, 1963, in Los Angeles, aged 46, during open heart operation. Graduate of Duke University School of Medicine, Durham, North Carolina, 1943. Licensed in California in 1943. Doctor Ruff was a member of the Los Angeles County Medical Association.

◆

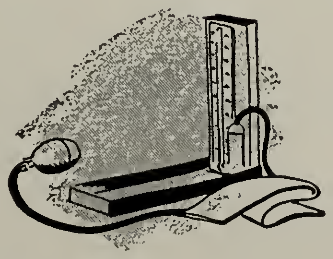
Siegmund, Frederick William, Los Angeles. Died December 4, 1963, in Los Angeles, aged 78, of arteriosclerosis. Graduate of The Hahneman Medical College and Hospital, Chicago, Illinois, 1910. Licensed in California in 1917. Doctor Siegmund was a member of the Los Angeles County Medical Association.

◆

Wallace, Carl Tufts, Eureka. Died October 19, 1963, in Eureka, aged 82. Graduate of McGill University Faculty of Medicine, Montreal, Quebec, Canada, 1908. Licensed in California in 1909. Doctor Wallace was a member of the Humboldt-Del Norte County Medical Society, a life member of California Medical Association, and a member of the American Medical Association.

◆

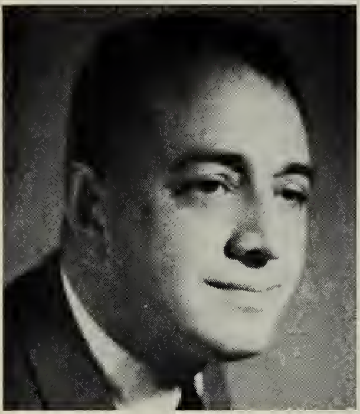
Zinnamon, Burton Leonard, Santa Rosa. Died December 7, 1963, in Oakland, aged 57. Graduate of Loyola University School of Medicine, Chicago, Illinois, 1936. Licensed in California in 1936. Doctor Zinnamon was an associate member of the Sonoma County Medical Society.



1964 SCIENTIFIC ASSEMBLY

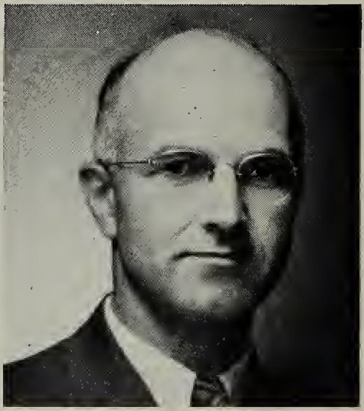
BILTMORE HOTEL LOS ANGELES

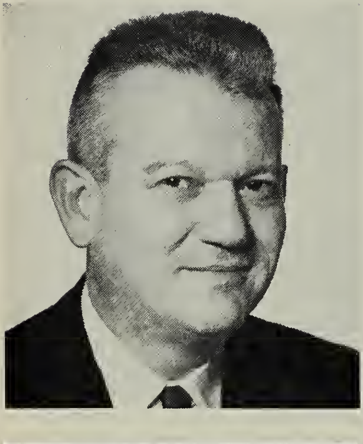
Sunday, March 22 Wednesday, March 25



ROBERT A. GOOD, M.D.
American Legion Memorial Heart Research Professor of Pediatrics and Professor of Microbiology, University of Minnesota Medical School, Minneapolis.

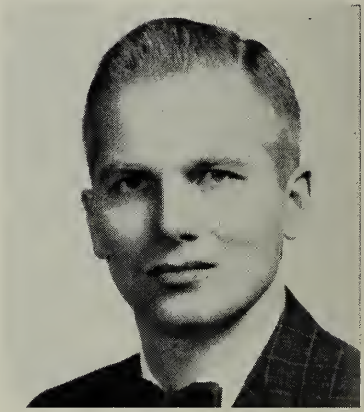
JOSEPH E. MURRAY, M.D.
Assistant Clinical Professor of Surgery, Harvard Medical School; and Senior Associate in Plastic Surgery, Peter Bent Brigham Hospital, Boston.





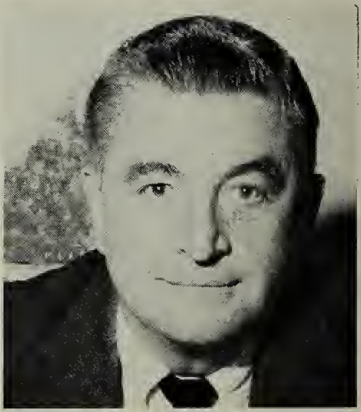
DONALD G. McKAY, M.D.
Delafield Professor and Chairman, Department of Pathology, College of Physicians and Surgeons of Columbia University, New York City.

FRANK J. DIXON, M.D.
Head, Division of Experimental Pathology, Scripps Clinic & Research Foundation, La Jolla.



JONATHAN W. UHR, M.D.
Associate Professor of Medicine, New York University School of Medicine; and Director, Irvington House Institute for Rheumatic Fever and Allied Diseases, New York City.

THOS. F. DOUGHERTY, Ph.D.
Professor and Head, Department of Anatomy, and Director of Radiobiology Laboratory, University of Utah College of Medicine, Salt Lake City.



General Theme: IMMUNOLOGY

THREE GENERAL MEETINGS:

- Biological Basis of Immunology
- Tissue Transplantation
- Clinical Implications of Immunology and Autoimmunity

MOTION PICTURE & CLOSED CIRCUIT TV SYMPOSIA • SPECIALTY SECTION MEETINGS

APPLICATION FOR HOTEL ACCOMMODATIONS

93rd Annual Session

CALIFORNIA MEDICAL ASSOCIATION

MARCH 22 to 25, 1964
BILTMORE HOTEL
LOS ANGELES

House of Delegates Opening Session Saturday evening, March 21; Scientific Programs begin Sunday morning, March 22.

INFORMATION

1. Please fill in the form below **completely** for room accommodations at the CMA's 1964 Annual Session. There is only a limited number of rooms available. Your choice of accommodations will be better if your request is for rooms to be occupied by two or more persons.
2. Your reservation request should include the **definite date and hour** of your arrival and departure.
3. Reservations can only be held until 6:00 p.m.
4. **All reservations must be made through the CMA Housing Bureau, Department 34, 693 Sutter Street, San Francisco, California 94102.**
5. **DEADLINE** for housing: March 9, 1964.

HOTEL ROOM RATES:

	Single	Twin	Suites
BILTMORE HOTEL			
515 So. Olive St.	$ 9.50-15.50	$12.50-17.50	$25.00-65.00
MAYFLOWER HOTEL			Corner Studio
535 So. Grand	$ 7.50-10.00	$10.00-14.00	$12.00-14.00
STATLER-HILTON	Studio		Small Suite
930 Wilshire Blvd.	$10.00-16.50	$16.00-20.50	$28.00-31.00
			Large Suite
			$34.00-41.00
AMBASSADOR HOTEL 3400 Wilshire Blvd.			
Main Building	$14.00-24.00	$18.00-28.00	$40.00-58.00
Garden Suites	$22.00-34.00	$24.00-36.00	$54.00-66.00

California Medical Association—Housing Bureau, Department 34
693 Sutter Street, San Francisco, California 94102

Please reserve the following accommodations for the 93rd Annual Session of the California Medical Association in Los Angeles, March 22-25, 1964. The first meeting of the House of Delegates begins Saturday evening, March 21; Scientific Programs begin March 22.

Single Room $.................... Twin-Bedded Room $.................... Other....................

Small Suite $.................... Large Suite $.................... Other....................

First Choice Hotel.................... Second....................

Arrival (date).................... Hour.................... a.m.................... p.m....................

Departure (date).................... Hour.................... a.m.................... p.m....................

Hotel reservations only held until 6:00 p.m.

THE NAME OF EACH HOTEL GUEST MUST BE LISTED.* Therefore, please include the names and addresses of both persons for each twin-bedded room requested; and names and addresses of all other persons for whom you are requesting reservations, and who will occupy the rooms asked for:

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....

....

....

Individual Requesting Reservations—PLEASE PRINT OR TYPE:

Name:.................... Are you a CMA Officer?.......... Delegate?.......... Alternate?..........

Address:.................... County....................

City and State.................... Zip No....................

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*Number of children attending.......... Ages.......... Do you wish planned activities for them? Yes.......... No..........

SOUTHERN COUNTIES

14th annual regional postgraduate institute

NEWER DIAGNOSTIC METHODS

El Mirador Hotel
Palm Springs
February 6-7, 1964

PRESENTED cooperatively by Southern Counties Medical Societies, Continuing Education in Medicine and the Health Sciences, University of California Medical Center, San Francisco, and the Committee on Continuing Medical Education, California Medical Association.

A 12-Hour Course

GUEST SPEAKER . . . RULON RAWSON, M.D.

Professor of Medicine, Cornell University School of Medicine, Memorial Center for Cancer
New York, New York

HOST: San Bernardino County Medical Society. REGIONAL CHAIRMAN: John Cram, M.D., 575 5th Street, San Bernardino. INSTITUTE FEE: $15.00. For additional information or hotel application blanks, contact Continuing Medical Education office, California Medical Association, 693 Sutter Street, San Francisco 94102. All California Medical Association members and their families are cordially invited to attend.

THURSDAY, FEBRUARY 6

8:15—Registration.

MORNING SESSION . . . . *Presiding: Wendell L. Ogden, M.D., San Bernardino*

9:00- 9:40—**Diagnostic Approach to the Patient with Muscular Weakness** . Walter J. Treanor, M.D.

9:40-10:30—**The Physiologic Basis for Modern Tests of Thyroid Function** . Rulon W. Rawson, M.D.

10:30-10:45—Questions and Answers.

11:00-12:00—**Clinico-Physiologic Conference** . . . . . Gerson R. Biskind, M.D., Moderator
Felix O. Kolb, M.D., R. Elgin Orcutt, M.D., Rulon W. Rawson, M.D.,
George William Smith, M.D., Walter J. Treanor, M.D.

AFTERNOON SESSION . . . . *Presiding: Fred Gutekunst, M.D., San Bernardino*

2:00-2:45—**Practical Approach to Viral Diseases** . . . . T. Timothy Crocker, M.D.

2:45-3:30—**Enzyme Studies of Clinical Significance** . . . . Herbert C. Moffitt, Jr., M.D.

3:30-3:45—Questions and Answers.

4:00-5:00—CONCURRENT SESSIONS (you may go to one of your choice):

A. **Viral Infections of Clinical Importance** . . . . George Spelman, M.D. Moderator
T. Timothy Crocker, M.D., R. Elgin Orcutt, M.D.

B. **The Selection of a Laboratory Test** . . . . . . Irving Root, M.D., Moderator
Gerson R. Biskind, M.D., Felix O. Kolb, M.D.

PROGRAM

FRIDAY, FEBRUARY 7

MORNING SESSION . . . . *Presiding: John P. Miller, M.D., San Bernardino*

9:00- 9:30—**Practical Aspects of Culdoscopy** . . . . R. Elgin Orcutt, M.D.

9:30-10:00—**Cineradiography in Diagnostic Radiology** (with movie projections) . . . . H. Joaquin Burhenne, M.D.

10:00-10:15—Questions and Answers.

10:30-12:00—**Clinico-Physiologic Conference and Panel Discussion** . . . . Gerson R. Biskind, M.D., Moderator
H. Joaquin Burhenne, M.D., Herbert C. Moffitt, Jr., M.D.,
William Silen, M.D., Alvin Tucker, M.D.

AFTERNOON SESSION . . . . . *Presiding: Edward McGinnis, M.D., San Bernardino*

2:00-2:45—**The Patient with Renal Calculi** . . . . Felix O. Kolb, M.D.

2:45-3:30—**New Advances in Pancreatitis** . . . . William Silen, M.D.

3:30-3:45—Questions and Answers.

4:00-5:00—CONCURRENT SESSIONS (you may go to one of your choice):

A. **The Combined Approach to the Immobilized Patient** . . Joel Adams, M.D., Moderator
Robert Ballard, M.D., Theo Cohen, M.D., Felix O. Kolb, M.D.,
D. J. Singer, M.D., Walter J. Treanor, M.D.

B. **Criteria of Operability** . . . . Shelby Jernigan, M.D., Moderator
Rulon W. Rawson, M.D., William Silen, M.D.

PUBLIC HEALTH REPORT

MALCOLM H. MERRILL, *M.D., M.P.H.*
Director, State Department of Public Health

EIGHT CONFIRMED CASES of phenylketonuria (PKU) were found among the 250,000 to 270,000 children screened since 1957 by 41 local health departments. All were white although non-white attendance at child health conferences in California was estimated to be more than 20 per cent.

The yield of less than one case in 30,000 tested is low, especially when contrasted with the one in 10,000 being reported in the Guthrie Test field trials sponsored by the U.S. Children's Bureau.

Whether the discrepancy is due to differences in the populations screened, to the techniques involved or to the manner in which the procedures were conducted cannot be definitely stated at this point. While the scope and depth of this survey were quite limited, the general findings do indicate that more definitive examination of the procedures in PKU screening programs are needed.

* * *

Monthly reports to the public on radioactive fallout in California are now required by a law adopted by the Legislature this year. The new law assigns specific responsibility to the department for monitoring radioactive materials in the environment and requires the results of such monitoring to be made public to news media at least once a month.

While the department has not routinely reported fallout activity, it has for the past several years made public any unusual incidents of radioactivity in water, rain, milk, and other foods.

Levels of radioactive fallout in California have been and continue to be far below those at which consideration would necessarily be given to protective public health action.

* * *

As 1963 comes to a close, it can be safely and pridefully said that this year we had the lowest number of poliomyelitis cases ever recorded in our state.

By mid-December, only 16 cases of paralytic poliomyelitis had been reported, compared with 74 in 1962 and 78 in 1961. There has been one death, compared with five and four respectively in the two preceding years.

The medical profession and the many community organizations which conducted the successful K.O. Polio campaigns deserve major commendation for their contribution to this outstanding record.

* * *

The seventh annual Air Pollution Medical Research Conference will be held February 10-11 in the Los Angeles County Medical Association Building. The Conference will feature reports on experimental exposures of human subjects to a variety of pollutants.

Sessions will also be held on biochemical and cellular responses to air pollutants, the mechanisms of infiltrative lung disease, and surveys of respiratory diseases which may be associated with air pollutant exposures.

INFORMATION

Kerr-Mills Administration in California

LEWIS T. BULLOCK, M.D.*

THE PURPOSE of the Kerr-Mills Law is to provide assistance for elderly people with reduced income who incur large medical expenses. The Law was designed to meet an unmet need and to provide medical services to elderly people which were not available. These purposes are being thwarted in California and Kerr-Mills funds are being used for an entirely different purpose. The elderly citizens of California who face large medical expenses are being denied access to Kerr-Mills funds and they are not being assisted in obtaining medical care not previously available to them.

The annual report of the Department of Social Welfare for 1962 on the Medical Assistance for the Aged Program (MAA) states that $22,430,051 was paid to County Treasuries for services in county hospitals and $2,331,384 was paid to private hospitals. Ninety per cent of this 24.7 million dollars was therefore used to compensate counties for the cost of operating county hospitals for the care of indigents. These services, of course, were already available. None of this 22 million dollars provided any additional medical service to the citizens of California. Our elder citizens are being denied the assistance provided them by Congress.

In Los Angeles County, from July, 1962, through June, 1963, $6,378,000 was paid for County Hospital care and $624,154 for private hospital care. In July, 1963, $564,320 was paid for County Hospital care and $75,873 for private hospital care. About 90 per cent of Kerr-Mills funds are therefore still being used in a manner which provides no additional medical care for the citizens of California.

In 1962, $20,810,419 was spent for nursing home care. There are no public nursing homes, but County Governments subsidize indigent patients in private nursing homes. A representative of the Department of Social Welfare has advised the Council of the California Medical Association that the proportions of indigent patients who would normally be subsidized by the County, as compared to patients who had paid for their own care in nursing homes, is the same as the proportion between county and private hospital patients. Here again, only 10 per cent of the funds are being used to assist elderly patients with reduced income who have faced large medical expenses.

We have in the community, elderly people who are known as indigents who cannot meet normal living expenses or pay for medical care. For these, the County has always provided assistance through Old Age Security and county hospital care. We also have a group who have always been independent — who have paid their own way and maintained a sense of responsibility. Many, however, have reduced incomes and on meeting prolonged illness and major medical expenses are faced with financial problems which they are unable to solve. These are called the medically indigent. It is for these that the Kerr-Mills Law was designed to provide assistance. It is just these however, who are being thwarted and in California denied the assistance which Congress has voted for them.

The Kerr-Mills Law states that its purpose is "to furnish medical assistance on behalf of *aged individuals* who are not recipients of old age assistance but whose income and resources are insufficient to meet the costs of necessary medical services." This indicates very clearly that the funds are for medically indigent individuals and that indigents are excluded. The Rattigan Act states that its purpose is "to supplement the financial ability of the *county governments* of this state to meet the health needs of the aged persons who are not recipients of Old Age Security." This shift of emphasis from aiding aged individuals to aiding county governments is denying aged citizens in California the assistance they deserve.

Both of these laws state that assistance is not available to citizens who are recipients of Old Age Security. In our opinion, this clearly means that these funds are not available to indigents. In our opinion this means that assistance from these funds is not available to citizens who either are recipients of Old Age Security, or who have been recipients of Old Age Security without a change in their financial status. In our opinion, the practice of the Department of Social Welfare of removing citizens from Old Age Security in order that they may receive assistance from MAA, is a deliberate violation of the intent of both the Kerr-Mills Law and the Rattigan Act. We strongly urge that the Department of Social Welfare be ordered to cease and desist from this practice. We recommend that the Rattigan Act be amended to read, "to meet the health needs of aged persons who are not recipients of Old Age Security, and that any person who had been a recipient of Old Age Security within six months prior to illness should be declared ineligible." We also recommend that the Rattigan Act be amended to correspond with the Kerr-Mills Law and read that its purpose is "to furnish medical assistance on behalf of *aged individuals* who are not (and have not been) recipients of old age assistance, but whose income and resources are insufficient to meet the costs of necessary medical services."

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*A statement by Lewis T. Bullock, M.D., representing the Los Angeles County Medical Association, before the California Senate Fact Finding Committee on Labor and Welfare, October 24, 1963.

The Rattigan Act requires that a patient in a private hospital pay the cost of an entire month in the hospital before becoming eligible for assistance through the Kerr-Mills Law. It is perfectly obvious that if a person has a reduced income he cannot possibly afford to pay the costs of an entire month in a hospital. The Department of Social Welfare has had authority to reduce this to three weeks, but has persistently refused to do so. This regulation and the resistance to modifying it appear to be a deliberate effort to subvert the intentions of the Kerr-Mills Law. The continuation of this regulation will continue to exclude the California citizens for whom the assistance was designed. We strongly urge that this regulation be eliminated. The claim that it cannot be done because of a lack of funds cannot be justified. The only reason for the lack of very adequate funds is that so much is being diverted away from aged citizens and into County Treasuries.

This year the Legislature added an alternative to the 30-day waiting period consisting of a provision that after a patient has paid $2,000 in a private hospital he may become eligible for assistance from Kerr-Mills funds. In our opinion, there are many aged citizens who are independent but who cannot afford $2,000 suddenly for medical expenses. This regulation also deprives aged citizens in California from the assistance which has been promised them. The criterion should not be how much an aged citizen has paid, but at any given point in such payment that the aged individual's "income and resources are insufficient to meet the costs of necessary medical services." This is what the Kerr-Mills Law says, but it is not what is being practiced in California. We strongly recommend that this requirement be eliminated or reduced to say $200 and that at this point if his "income and resources are insufficient to meet the costs of necessary medical expenses" he become eligible for assistance through Kerr-Mills Law.

Assembly Bill No. 59 of the 1963 Legislature made County Governments eligible for compensation for the costs of indigent patients who have been in county hospitals for only one day. This, at the same time that independent aged citizens must pay the costs for 30 days in private hospitals before becoming eligible, in our opinion is gross discrimination against the elderly citizens of California. This means that County Treasuries have 30-1 odds for help as compared to aged citizens. We strongly urge that private citizens be given at least an equal opportunity for assistance from Kerr-Mills funds to that which is provided to County Treasuries. This discrimination should at least be eliminated. The private citizen in need of assistance actually should be given priority over the needs of a County Treasury. We strongly urge that at the very least the time in a private hospital paid for by an aged individual should be no greater than the time an indigent spends in a county hospital before the private citizen becomes eligible for assistance through Kerr-Mills funds. If the County Treasury becomes eligible after an indigent stays in a county hospital for one day, then the aged individual meeting other requirements should be eligible after one day in a private hospital.

The Department of Social Welfare has set the fees paid to a private hospital for the care of MAA patients as those paid in 1961. Since then, the fees paid by all other State programs, such as the Crippled Childrens Service, have been increased twice. However, these programs require that if a similar service is provided for any other group at a lower rate, their price must be reduced accordingly. The fee set by MAA in 1961 is definitely below the cost of providing the service. If a private hospital accepts an MAA patient, it must therefore, not only accept a fee below cost for this patient, but must also reduce the fees it receives from all other State agencies. The MAA program is therefore making an attempt to reduce the fees received by all private hospitals for all State programs to an amount considerably below the costs of providing these services. Most private hospitals will, therefore, not accept an MAA patient. By law, these patients are guaranteed free choice of doctor and free choice of hospital. However, this program is administered by the Department of Social Welfare in such a manner that its recipients are restricted to County Hospitals. In our opinion, this is a gross distortion of the purpose of the Kerr-Mills Law. We strongly recommend that the fees available to private hospitals be changed to provide at least the cost of these services to the hospital, and that these fees be no less than those paid by other State agencies for the same service.

The Department of Social Service has changed the services provided by the MAA program, such as private nurses, without notifying the hospitals and then refused to compensate the hospitals for services provided under the program. Hospital administrators are therefore extremely reluctant to provide any service since they cannot be certain that unknown changes in regulations will not leave them responsible for services without compensation. There is an urgent need by the administrators of this program for a greater understanding of the problems faced by private hospitals.

In our opinion, the Kerr-Mills Law in California is being operated in such a manner that it substitutes Federal funds for County funds in the payment for hospital care of the indigent. It is not providing any significant medical service to the independent aged citizens of California which was not previously available. In the interest of the aged citizens of California, we strongly urge that the following recommendations be adopted:

1. That the Department of Social Welfare be ordered to cease and desist from providing medical care with MAA funds for citizens who have been recipients of Old Age Security.

2. That the Rattigan Act be amended to read, "to meet the health needs of aged persons who are not *and have not been* recipients of Old Age Security."

3. That the Rattigan Act be amended to read that its purpose is "to furnish medical assistance on behalf of *aged individuals* who are not (and have not been) recipients of Old Age Assistance, but whose income and resources are insufficient to meet the costs of necessary medical services."

4. That the requirement that a patient spend a month in a private hospital before becoming eligible for Kerr-Mills funds be eliminated.

5. That the requirement that a patient in a private hospital pay $2,000 before becoming eligible for Kerr-Mills funds be eliminated, and that the criterion be the point in the payment for private care at which the individual's income and resources become insufficient to meet the costs of necessary medical services.

6. That the time a private patient spends with his own finances in a private hospital before he becomes eligible for Kerr-Mills assistance, be reduced at least to, or preferably below, the time an indigent spends in a county hospital before the County Treasury becomes eligible for compensation for his care.

7. That the fees paid to private hospitals for MAA patients be at least adequate to meet the costs of providing the services, and that they be no less than the fees paid by other state agencies for the same service.

8. That this program be administered by personnel who are sympathetic with the objectives of the Kerr-Mills Law and indicate a desire to cooperate with and understand the problems of the private hospitals who desire to aid the aged citizens of California under the Kerr-Mills Law.

We appreciate the opportunity of appearing before you.

Government Programs in California For the Disabled

A Report of the Bureau of Research and Planning, California Medical Association

> A variety of public programs provide or finance the costs of medical care for injured or ill persons in the community.
>
> This report was prepared for the purpose of providing the physician with information on the types of programs in existence and as an aid in counseling patients who may not be fully aware of these programs or benefits provided by them.

THE INDIVIDUAL in our society and his family are covered by a number of programs providing medical care and subsistence income. These programs vary from those which are based upon criteria of eligibility found in public assistance type programs, to those which are limited to veterans.

Those programs which have an approach often referred to as social insurance are: Social Security Disability Insurance, State Workmen's Compensation Insurance, and Unemployment Compensation Disability Insurance (California). There are a large number of public assistance programs supported by general tax revenues (federal, state, or county) whose benefits are not determined by the individual's contribution, but rather are based upon his basic needs. The latter group includes such programs as: Vocational Rehabilitation, Aid to Needy Disabled, Aid to the Self-Supporting Blind, Aid to the Blind, Aid to Needy Children, Old Age Security, Medical Assistance for the Aged, General County Relief. In this last group the person and/or family must meet the criteria of need established, generally, by the use of a means test. A third category provides benefits to persons who qualify as veterans of the U.S. Armed Forces.

UNEMPLOYMENT COMPENSATION DISABILITY INSURANCE

A worker who is injured off the job or is suffering from a nonoccupational illness may receive benefits from the State of California Department of Employment as part of the Unemployment Compensation Disability program. These benefits are: (1)

$12 per day for up to 20 days of hospitalization; (2) Income replacement ranging from a minimum of $10 a week up to $75 per week. If the individual is not hospitalized, there is a waiting period of one week before any benefits are granted. This program is supported by the worker, who pays a one per cent tax on his yearly income base of $4,600. Persons in local, state and federal government positions, and those employed by non-profit organizations (i.e., hospitals or religious organizations, except if such organizations voluntarily elect coverage), and household or domestic workers are not presently covered under this program.

The maximum duration of benefits under this program is six months. Therefore, persons who are expected to be disabled for longer periods may apply for Social Security disability benefits. This may be done in the fourth month of disability; this allows sufficient time for most applications to be processed before termination of unemployment compensation disability benefits at the end of six months, when Social Security disability benefits begin for eligible wage-earners.

DISABILITY INSURANCE AS PART OF OLD AGE AND SURVIVORS INSURANCE

If a worker becomes totally and permanently disabled and is covered under Social Security, i.e., he has earned an income through work covered under the Social Security Act for five out of his last ten-year work periods, he may be eligible for disability benefits. The worker must have a disabling illness or injury that makes him unable to engage in any substantial gainful activity. Benefits may be paid after the illness or injury has lasted for six months, if the condition is long-continued or permanent. The determination of the applicant's disability is made by the State's Vocational Rehabilitation Service. The rulings of the State Vocational Rehabilitation Service are reviewed by the Social Security Administration to maintain consistency and conformity to national policy. The physician in private practice reporting on his patient is only asked to provide objective medical data and is not asked to decide whether the patient is disabled. Disability benefits begin the first month in which all the requirements of the law are met. Monthly disability benefits range from the low of $40 per month for the single worker with minimum average earnings, up to $254 per month for the disabled worker (regardless of age) with two or more children and a wife.

Applications for these benefits may be filed at Social Security district offices four months after the onset of the impairment. Usually, six to 12 weeks or more are required to collect necessary data and reach a decision.

WORKMEN'S COMPENSATION

Workers injured in the course of employment or who contract an occupationally connected disease are provided with medical care and a temporary disability income replacement. This insurance coverage is provided by the employer; all medical and ancillary care is provided at no money cost to the injured worker. The worker is entitled to medical care for such an injury or illness for up to five years from the date of the injury, or in some cases where the Industrial Accident Commission makes such a determination, for the life of the worker. A worker is entitled to a maximum of 240 weeks of temporary disability income which can range from $25 to $70 per week. After his medical condition becomes stationary and his condition has been rated (degree of disability), a hearing is held to determine the equity of the rated award. It is at this time, after the award has been made, that the worker starts to receive his permanent disability payment. The worker receives four weeks of disability payment for each one per cent of disability rating.

VOCATIONAL REHABILITATION

If a person is 16 years of age or older and a resident of California and is diagnosed as having an abnormal physical or mental condition considered to be a definite vocational handicap, he may apply for Vocational Rehabilitation Service including counseling and training. Generally, the Vocational Rehabilitation Service utilizes the facilities existing in the community, such as local training institutions, privately owned shops, and other places of business and employment. The Rehabilitation Service provides for medical examination, medical treatment, psychological testing, occupational tools and equipment, job placement, and follow-up. In some cases of need, an income supplement may be granted for maintenance purposes, not exceeding $100 per month. Vocational Rehabilitation Service is not designed to provide emergency assistance, but rather through careful evaluation and planning to equip a handicapped person with a permanent saleable skill within his capacity. This may require from a few months to several years of time.

OLD AGE SECURITY

The Old Age Security program, designed to provide financial assistance to persons 65 years of age or more, is an important part of the Federal Social Security program. The eligibility requirements are based upon age, residency in the State and in the United States and apply to persons who are not institutionalized who are capable of satisfying a means test. The maximum amount of aid which can be granted to recipients is $105 per month. Recipients under this program are also eligible for medical care services under the Public Assistance Medical Care program.

MEDICAL ASSISTANCE FOR THE AGED

As part of the Federal Kerr-Mills Act, California inaugurated on January 1, 1962, a Medical Assistance for the Aged program for persons 65 years of age and over. Although there is no residency requirement, there is a test of need which is based upon holdings of real and personal property and the amount of income received. This program covers payment for hospital and nursing home care and includes out-patient services after the eligible person has been discharged from the hospital, or nursing home. Recently this program has undergone revision so that payments will be made before the end of a 30-day period if expenses of $2,000 or more have been incurred in a private hospital. Payments will be made from the beginning of an illness if the aged person is hospitalized in a county hospital, or transferred to a nursing home from such a hospital, or from the first of the month following confinement in a nursing home.

AID TO NEEDY DISABLED

A person is eligible if he has a major physical or mental impairment of a permanent nature which precludes gainful employment. To be eligible the person must be 18 years or over, meet stipulated residency requirements of the United States and California, not be an inmate of a long-term hospital or penal institution, and meet a means test. The maximum amount of aid that may be granted under this program is $105 a month.

SERVICES FOR THE BLIND

There are several programs in California providing material support and occupational rehabilitation and the provision of medical care. The Aid to Needy Blind program was created to "relieve blind persons from the stress of poverty, to enlarge the economic opportunities of the blind, and to stimulate the blind to greater efforts in striving to render themselves self-supporting."

To receive benefits through this program, a person must have a physical impairment which is considered to fall under the definition of economic blindness, be at least 16 years of age, either have become blind while in California or have satisfied the stipulated residency requirement in terms of time, and satisfied the conditions of a means test. A maximum grant of $110 per month can be made to meet the basic needs of a person eligible under this program.

AID TO THE PARTIALLY SELF-SUPPORTING BLIND RESIDENTS

Under this program the State provides a plan whereby residents of the State who are blind are encouraged to better their economic position so that they may eventually become independent of public assistance and be entirely self-supporting. The eligibility under this program is similar to that of the Aid to Needy Blind program with the following exceptions:

1. The person must have a plan for self-support.
2. A certain amount of income earned under this plan is exempt from consideration in determining the initial eligibility under this program.
3. A person under this program may own an additional $5,000 of real or personal property if these assets are used and are necessary to implement the plan of self-support.

PROGRAM OF PREVENTION OF BLINDNESS

This program is one in which the State pays the entire cost of specified treatment for applicants or recipients of aid whose vision can be restored. To be eligible under this program, a person's vision must be capable of being improved or restored to a degree above the criteria of economic blindness.

AID TO NEEDY CHILDREN

The primary objective of the Aid to Needy Children program is to provide the necessary financial assistance to keep families together where economic support is not available due to the loss, absence, and in the near future, unemployment of the family bread-winner. Under this program, families are encouraged to keep children in their own homes wherever possible and to insure the best substitute when foster care is necessary. Any child under the age of 18 years who has been deprived of adequate parental support (as defined by the State Social Welfare Board) by reason of death, continued absence from the home or *physical or mental incapacity* of the parent is eligible for assistance, if residency and means test requirements are met. Aside from financial support for the dependent child, and in some cases, the dependent adult, medical care services are provided for the eligible family.

GENERAL RELIEF

A program that provides support in money and in kind to indigent persons in our State is the General Relief program. This program is supported by county contributions and administered by county boards of supervisors through county Welfare Departments. Neither State nor Federal dollars directly enter into the monies expended for the support of the indigent within respective counties, since the program provides public assistance to indigent persons ineligible under state programs. The eligibility requirements and basic procedures are determined individually in each county. Eligible families may be provided with housing, clothing, care of persons, and food allowances, and medical care at county hospitals or clinics.

VETERANS ADMINISTRATION
(Non-Service Connected Illness or Injury)

Persons who have served 90 days of active duty during wartime may be eligible to receive disability pension payments from the Veterans Administration. In order to receive such disability payments, the person must be totally and permanently disabled before he reaches the age of 55, or 60 per cent disabled between the ages of 55 and 60, or 50 per cent disabled between the ages of 60 and 65, or 10 per cent disabled after the age of 65. The person must have had this disability for not less than six calendar months before being considered eligible to receive such disability pension benefits. The range of disability pension benefits is $40 to $85 a month for the single veteran and $45 to $105 per month for the married veteran.

CRIPPLED CHILDREN'S SERVICES PROGRAM

The program of Crippled Children's Services was developed for handicapped children under the age of 21 with particular physical defects stemming from accident, or faulty development, from congenital anomalies or acquired through disease. The services provided for those whose physical defects are disabling and could be either corrected or arrested, fall into the following categories: (a) defects of an orthopedic nature; (b) defects requiring plastic reconstruction; (c) defects requiring orthodontic reconstruction; (d) eye conditions leading to a loss of sight; (e) ear conditions leading to a loss of hearing; (f) rheumatic or congenital heart disease; (g) and other disabling or disfiguring deformities.

The State Department of Public Health administers the program on the State level, while the county health or welfare department administers the program locally. The pattern of the program's operation depends upon the size of the local case load. Within the particular counties which have neither the staff nor facilities available locally, the State Department of Public Health has a more direct role in the implementation of the program.

Eligibility to receive services under this program is determined first on the basis of medical need under guidelines established by the State Department of Public Health, and then financial eligibility determined by the county, based upon suggested State criteria. The financial responsibility may involve part payment or no payment on the part of the responsible parent or parents.

693 Sutter Street, San Francisco, California 94102.

Hospital and Insurance Coverage for the Elderly

A STUDY AT LONG BEACH COMMUNITY HOSPITAL FOR PATIENTS OVER THE AGE OF 60

A Report of the Bureau of Research and Planning, California Medical Association

A PILOT STUDY of the characteristics of a hospitalized aged population (60 years and over) for a three-month period (January 1, 1963 to March 31, 1963) was conducted at the Long Beach (California) Community Hospital. This project reviewed a number of aspects of the economic problem of the aged in meeting the cost of hospitalization, in cases with and without insurance, covering a large variety of medical diagnoses. Almost 27 per cent of the persons in the study group were under 65 years of age. Of the remaining percentage, the largest number of persons were to be found in the 70 through 74 year age group. The smallest number of those hospitalized were those to be found in the 85 and over group. However, these data should be reviewed with the population distribution of the community in mind. Thus the smaller number of those 85 and over possibly indicates the smaller number of persons and the proportion of such persons in the aged community. (See Table 1.)

Some general overall characteristics of the population studied indicate that the larger proportion was female (58.3%). By far the largest per cent (69.4%) came from the immediate Long Beach area. The general classification of condition at the time of discharge is limited to either a (1) living or (2) deceased status. Based on the collected data, 89.1 per cent of persons treated within this age group were living on discharge, while the remainder fell into the deceased category. (See Table 2.)

As with other age groups in a general hospital the largest number of cases had comparatively short stays. Of all the cases, 164 or almost 34 per cent stayed less than five days, whereas 324, or 67 per cent, stayed less than ten days. The data do not

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Source: Unpublished Data, Long Beach Community Hospital, Walter Oliver, Administrator.

TABLE 1. — *Age Distribution of Patients 60 Years and Over Discharged from the Long Beach Community Hospital, January 1, 1963 — March 31, 1963*

Age Groups	Number	Per Cent in Age Group
60-64	131	26.9%
65-69	84	17.2
70-74	110	22.6
75-79	81	16.6
80-84	49	10.1
85 & over	32	6.6
Total	487	100.0%

TABLE 2. — *Characteristics of Patients at Long Beach Community Hospital, 60 Years and Over, January 1, 1963 — March 31, 1963*

	Number	Per Cent
SEX		
Male	203	41.7%
Female	284	58.3
Total	487	100.0%
AREA OF RESIDENCE		
Long Beach	338	69.4%
Other	149	30.6
Total	487	100.0%
CONDITION OF DISCHARGED		
Living	434	89.1%
Deceased	53	10.9
Total	487	100.0%

TABLE 3. — *Distribution of Hospital Stay in Days for Patients 60 Years and Over, at the Long Beach Community Hospital, January 1, 1963 — March 31, 1963*

Days	Number of Stays	Per Cent of Stays
1-4	164	33.7%
5-9	160	32.9
10-14	75	15.4
15-19	38	7.8
20-24	23	4.7
25-29	9	1.8
30 & over	18	3.7
Total	487	100.0%

locate the range of stays within which the deceased individuals fell. The classification "living" does not indicate whether the patient returned directly home, to a long-term hospital, or to a nursing home facility. (See Table 3.)

Of paramount interest in this study is the information on the cost to the patient of his stay in the Long Beach Community Hospital. Based on categories of $100 increments the category with the greatest frequency (mode) was found to be in the $200 to $299 group; however, the median (half cases above, half cases below) is to be found in the $300 to $399 group. Approximately 11 per cent of cases hospitalized at the Long Beach Community Hospital during this period incurred expenses of $1,000 or more. (See Table 4.)

TABLE 4. — *Total Cost of Stay for Patients Using the Facilities of Long Beach Community Hospital, January 1, 1963 — March 31, 1963*

Amount	Number	Per Cent
$ 0 - 99	23	4.7%
100-199	92	18.9
200-299	111	22.8
300-399	50	10.3
400-499	43	8.8
500-699	70	14.4
700-999	45	9.2
1,000 & over	53	10.9
Total	487	100.0%

TABLE 5. — *Percentage of Hospital Bill Covered By Those Persons 60 Years and Older With Insurance, as Compared to All Persons in Sample, January 1, 1963 — March 31, 1963*

Percentage of Hospital Bill Paid	Number	Per Cent of Persons With Insurance Hospitalized	Per Cent of All Persons Hospitalized
0%	..	0%	49.3%
1-9	3	1.2	0.6
10-19	4	1.6	0.8
20-29	7	2.8	1.4
30-39	8	3.3	1.6
40-49	7	2.8	1.4
50-69	51	20.7	10.5
70-99	120	48.6	24.7
100%	47	19.0	9.7
Total	247	100.0%	100.0%

One of the most important issues concerning health care for the aged is the number covered by insurance in the aged population and the extent to which insurance met the costs of hospitalization. According to this Long Beach Community Hospital Survey almost 51 per cent of the population treated during this three-month period had hospital insurance coverage. The breakdown of coverage is not by age so that it is conceivable that a larger proportion of those between 60 and 65 had coverage. It is interesting to note that 247 out of the 487 in the study had 71.9 per cent of their total hospital charges covered by insurance payments or $94,363 out of the total of $131,237* in hospital charges. Another way to view the extent of coverage is to review the coverage in terms of the per cent of the hospital bill paid for those persons with coverage and the total population studied. As previously indicated, 50.7 per cent had coverage. It is interesting to see that of this group of 247 persons, 47 or 19 per cent had 100 per cent of their hospital bill paid; 48.6 per cent of this group had between 70 and 99 per cent of their bill paid. In terms of the total sample (487) 9.7 per cent had their total bill paid, and 24.6 per cent had between 70 and 99 per cent of their bill paid. (See Table 5.)

Another important comparison is that of the out-

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*This figure represents a slight overstatement of total charges inasmuch as telephone, newspapers and TV charges are included.

TABLE 6. — *Amount Owed to Long Beach Community Hospital by Patients 60 Years or More, 90 Days After Discharge, for Patients With and Without Hospital Insurance Coverage, January 1, 1963 — March 31, 1963*

	Without Insurance		With Insurance		Total	
Owed Amount	Number	Per Cent	Number	Per Cent	Number	Per Cent
$ 0-99	17	34.0	34	43.0	51	39.5
100-199	12	24.0	13	16.5	25	19.4
200-299	4	8.0	9	11.4	13	10.1
300-399	1	2.0	7	8.9	8	6.2
400-499	3	6.0	5	6.3	8	6.2
500 & over	13	26.0	11	13.9	24	18.6
Total	50	100.0%	79	100.0%	129	100.0%
	240	20.8%	247	32.0%	487	26.5%

This table is to read as follows:

The 50 cases without insurance, owing money at the end of 90 days after discharge represented 20.8 per cent of the 240 patients without insurance.

The 79 cases with insurance, owing money at the end of 90 days after discharge represented 32 per cent of the 247 patients with insurance.

The 129 cases (50 + 79) without or with insurance, owing money at the end of 90 days after discharge, represented 26.5 per cent of all 487 patients in the sample.

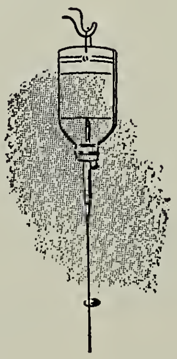
standing debt status of individuals with insurance and without insurance at the end of a 90-day period. At the end of this period, 20.8 per cent of those without insurance had not completely paid their bill, while 32 per cent of those with insurance had not completely paid their bill. (See Table 6.)

The study of the Long Beach Community Hospital made a comparison between debts outstanding at the end of a 90-day period between a general population (all age groups) and the aged group. It was discovered that while 26.4 per cent of the 487 accounts of the aged group still had outstanding bills after 90 days 29.3 per cent or 49 out of a random sample of 167 accounts still had outstanding bills at the end of 90 days. Thus it would appear that a smaller proportion of the aged (2.9 per cent) had outstanding accounts at the end of a 90-day period. Since the study does not discuss the sampling variability, the 2.9 per cent difference might not appear to be too significant. It should be noted that there are no data comparing the size of the debt nor the extent of coverage.

The reader may be interested to know that within the community of Long Beach, Long Beach Community Hospital's 237 beds represent 22.5 per cent of all the short-term bed facilities. As of the year ending March 1, 1962, Long Beach Community Hospital had 9,225 or 19.2 per cent of all admissions in the community.

These data were found during exploratory discussions between the California Hospital Association and the California Medical Association relating to a proposed study of hospital charges and insurance coverage for persons 65 years of age and older. Although the Long Beach study included persons 60 years of age and older, a future CHA-CMA study will study this problem among a statistical sample of short-term hospitals in California for the 65+ group.

693 Sutter Street, San Francisco, California 94102.



WOMAN'S AUXILIARY

TO THE CALIFORNIA MEDICAL ASSOCIATION

Focus—Health Careers

"What is the use of health or of life,
if not to do some work therewith?"
—THOMAS CARLYLE

TODAY'S STANDARDS of excellence in the health field are attributed to the heritage of medicine preserved by people of past generations combined with the contributions and discoveries of the present generation.

Today's physician is at the pinnacle of the health team, sustained by people of the past; currently released from minor tasks by helping hands of other teammates in health careers, thus enabling him to better deal with the maladies that beset mankind. It is estimated that for every physician, nine other persons are needed in the health sciences to perform services. The population explosion, coupled with the science explosion and the technological explosion, has created such heavy requirements for trained minds that acute shortages exist in health careers.

A case in point is a study by the Surgeon General's Consultant Group on Nursing, conducted at the request of the President last year, and just recently finished. The Consultant Group's best judgment was that the country needs 850,000 professional nurses by 1970, including 200,000 with baccalaureate preparation and another 100,000 with graduate preparation. However, taking into account the potential supply of students and the potential capacity of nursing schools, the Consultant Group had to lower its sights to a feasible target for 1970—680,000 (instead of the 850,000 really needed). This included only 120,000 with academic degrees. It is true that the nursing potential does grow as the population grows, but not in proportion to the demand. Schools of professional nursing graduated 30,000 students in 1961-62. It is estimated that if the proportion of high school graduates entering these professional nursing programs could be increased by six per cent, the profession could expect 53,000 graduates by 1970. A slight increase was noted in the number of women entering practical nursing courses also—27,000 in 1962 as compared with 25,250 in 1961. One conclusion is obvious: Facilities and teaching staffs must be increased to accommodate this expanding student potential. The lack of nurses with educational preparation, directly affects the overall supply of nurses and the quality of service they provide. One fourth of nurses engaged in teaching today lack any academic degree whatsoever, although experts recommend that a master's degree should be a minimum requirement for teachers in all nursing education programs.[1] To fill estimated requirements, graduate nursing programs should award 3,000 degrees of master or higher in 1970—triple their current figures.

Changing focus from the national scene, it should be noted that California feels the national condition with special impact, because of expanding hospital construction and rapid population increase. For the last ten years only twenty-five per cent of the newly registered professional nurses within the state have been California graduates. California has never maintained schools of nursing to the same extent as the eastern part of the United States; it depended upon attractions of western living to bring the nurses it needed. Hence, California is termed a "debtor state." Evidence exists that the western movement of nursing graduates is slackening. Noting that population growth will bring an increase of some nine million persons to our state by 1975, it becomes apparent that action is urgently needed if satisfactory nursing services are to be provided.

Nor is the nursing shortage a singular problem in the health field; the possible future shortage of physicians as well as a lack of personnel in all paramedical careers is a matter of growing concern. The great progress of medical science and the increased competition from other fields for persons of scientific talent have accelerated the need for recruitment of people for health careers. Other professions have moved into the high schools and colleges with attractive offers and descriptions of new, glamorous and lucrative careers; they have lured many capable young people away from the health professions. Thus, a need for reevaluation and refocusing on the Health Careers Program is imperative.

What is needed is broader advertising of the opportunities, the challenges and the high purposes of careers in health, plus more vigorous recruitment activities and additional scholarship assistance.

What is being done? One of the major projects of the Woman's Auxiliary to the California Medical Association has been to accept the challenge of inducing students of good quality to embark upon these careers. The Auxiliary has come a long way in a few years from the sponsoring of a few Future Nurses Clubs and scholarships, to the present sponsorship of 92 Future Nurse Clubs and 102 Health Careers Clubs. In addition, Health Careers Conference Days were held by ten California counties in the year just past, with attendance varying from six hundred to six thousand. This event is meeting with great enthusiasm from students, guidance counselors, school administrators, parents and persons in health professions. It is the best way yet devised of bringing an accurate picture of Health Career opportunities to a wide cross-section of the public. (Incidentally, it has proved to be an excellent public relations project.) To assist students in meeting financial problems encountered in pursuit of their life's work in health, the Auxiliary has done a vast amount of research on available scholarships and has placed the information with guidance counselors, teachers and careers clubs. Also, the Auxiliary itself provided $34,845 in scholarships in its most recent fiscal year, an increase of $12,000 over the preceding year. Auxiliary loans to needy students totaled $10,275 last year, an increase of $4,000 over the 1961-62 fiscal year.

In view of this increased activity, it would seem the problem of shortages was being met. Unfortunately, the supply is still falling far short of the explosive demand. More action is needed on the local level.

Concerned about the mounting problem, physicians themselves are becoming more active in interpretation and recruitment. The A.M.A. has compiled a "Medical Careers" kit containing speeches, radio and TV spot announcements, give-away pamphlets and the film "I Am a Doctor," to be used by physicians' speakers' bureaus.

In January 1962, a group of physicians in Weston, Mass., organized Medical Explorer Post 110, Boy Scouts of America, to acquaint young men of high school age with medicine. The group has become locally famous and is proving to be a highly satisfactory venture. Others have been formed elsewhere. Another new idea that is being carried out in Essex County, N.J., and Bernalillo County, N.M., is the "Medical Career Club." Under guidance of the medical societies there, students are developing an interest in science and a taste of the medical profession, through on-the-spot demonstrations in various hospital procedures, actual performance of routine clinical procedures, physicians' lectures, participation in health fairs, etc. This intimate contact with medical environment is invaluable in making an intelligent choice of career. In Connecticut the State Medical Society, working closely with the Woman's Auxiliary has coordinated the recruitment drives of many independent health organizations into one continuing vocational guidance program. The Medical Society's office serves as a clearing house for speakers, literature, films and the like to be used at schools.

All of the above ventures are a part of a chain of proof that the medical profession is vitally interested in better serving the health needs of our nation. The greatest untapped natural resource today, is people: People are needed to adapt medicine to the space age; to further explore "man's inner universe"; to bridge from the intellectual frontiers of today into tomorrow.

MRS. KENNETH J. MCNIECE*

REFERENCE

1. Toward Quality in Nursing—Needs and Goals, Report of the Surgeon General's Consultant Group on Nursing, U.S. Department of Health, Education and Welfare—pp. 9, 19.

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*3318 Calle Noguerra, Santa Barbara, California, Health Careers Chairman, Woman's Auxiliary to the California Medical Association.

NEWS & NOTES

NATIONAL · STATE · COUNTY

ALAMEDA

A two-day postgraduate seminar will be combined with the Twelfth Annual **Clifford D. Sweet Lecture** to be held at Children's Hospital of the East Bay in Oakland on April 10 and 11, 1964.

Dr. William A. Silverman, of Columbia University and Babies Hospital, New York City, will deliver the Sweet Lecture on Saturday evening, April 11. He will also moderate a panel discussion of "Prematurity and the Newborn" on Friday morning, April 10.

The second guest lecturer will be Dr. Alexander H. Bill of the University of Washington School of Medicine and Children's Orthopedic Hospital, both in Seattle. Dr. Bill will discuss "Malignancy in Childhood" on Saturday afternoon, April 11.

* * *

The highest award granted by the American Cancer Society has been conferred upon **Dr. Wendell M. Stanley,** professor of virology and director of the Virus Laboratory on the Berkeley campus of the University of California.

Dr. Stanley was presented the American Cancer Society Medal for Distinguished Service in Cancer Control at the society's recent annual meeting in New York City.

The award was given "in recognition of his pioneering and distinguished research concerning the nature of viruses and their relation to cancer, and of his many and valuable contributions to the work of the American Cancer Society and humanity."

LOS ANGELES

Dr. Clayton G. Loosli, dean of the USC School of Medicine since 1958, has asked to be relieved of the administrative duties of the deanship next August 31 while remaining a member of the faculty as professor of medicine and becoming medical director of the USC-affiliated Hastings Foundation, Dr. Norman Topping, USC President, announced.

Dr. Loosli will hold the position of **Hastings professor of medicine,** coordinating the research efforts on respiratory diseases by six other faculty members supported by Hastings funds. He will also teach and more actively continue his own studies of lung structure and function.

"USC appreciates the fine work Dr. Loosli has done as dean in building the research and teaching program for the medical school, attracting outstanding scientists to the faculty, and administering the growing physical plant," Dr. Topping said.

ORANGE

The Orange County Medical Association will present a scientific seminar on "Medicine and the Life Sciences" the afternoon and evening of February 4, 1964. Anyone interested in attending is cordially invited, according to Dr. Edward Shanbrom, chairman of the Committee on Postgraduate Education.

Registration begins at 2 o'clock and the scientific program at 2:30.

2:30-3:30—"Man, Land, and Food Supply"—Daniel G. Aldrich, Ph.D., Chancellor, University of California at Irvine.
3:30-4:30—"Mind and Memory" — Ralph W. Gerard, Ph.D., M.D., Director of Laboratories at Mental Health, Research Institute, University of Michigan; Visiting Professor of Biological Science, University of California at Irvine.
4:30-5:30—"Man and His Environment"—Joseph Kaplan, Ph.D., Professor of Physics, UCLA School of Medicine, Los Angeles.
5:30-7:00—Refreshments
7:00-8:00—Dinner*
8:00-9:00—"Radiocarbon and the History of Man" — Willard F. Libby, Ph.D., Nobel Laureate and Professor of Chemistry, UCLA School of Medicine, Los Angeles.

A three-dimensional "Image of Medicine" is expected to emerge from the annual conference of component society officers next month when 250 of them meet at the Statler Hilton in Los Angeles February 8 under the auspices of the California Medical Association.

The one-day conference of component-society-designated representatives, themed on "The Image of Medicine," will hear speakers and panelists discuss the subject from their several professional points of view —press, law, sociology, religion, entertainment and medicine itself.

"The result should be a three-dimensional look at ourselves, collectively and individually," said Dave T. Dozier, chairman of the conference.

Although basically invitational, the meeting is open to any CMA member who wishes to attend. There will be no registration fee.

GENERAL

Membership in California Physicians' Service at the beginning of this year had reached 1,053,000, CPS President Eric Reynolds announced to the CMA Council at its January meeting. Seventy-five per cent of the members were covered on the 1960 Relative Value Studies structure, he said.

* * * *

Within two weeks following a membership-wide notification at mid-December that the **Keough Law retirement plan** for members of the California Medical Association was ready for subscription by those who wished to do so, 4,072 inquiries had been received at CMA headquarters. Descriptive material and application forms were mailed to all who asked, and at the time of this report 244 members had set up plans for themselves and their employees.

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*Buffet Dinner, $5.00.

EDUCATION NOTICES

MEETINGS AND COURSES

COMMITTEE ON CONTINUING MEDICAL EDUCATION

THIS BULLETIN of the dates of continuing education programs and the meetings of various medical organizations in California is supplied by the Committee on Continuing Medical Education of the California Medical Association. In order that they may be listed here, please send communications relating to your future meetings or postgraduate courses to Committee on Continuing Medical Education, California Medical Association, 693 Sutter Street, San Francisco, California 94102.

MEDICAL MEETINGS

JANUARY MEETINGS

Jan 18.—**Orange County Heart Association** 9th Annual Symposium on Heart Disease. Charter House Hotel, Anaheim. Saturday. All day. $15, including lunch. Contact: Howard G. Buswell, executive director, Orange County Heart Association, P.O. Box 1704, Santa Ana.

Jan. 18—**Monterey County Heart Association and Stanford Medical School.** Tenth Annual Symposium on Cardiovascular Diseases. Fort Ord. Saturday. 8:30 a.m.-4:30 p.m. $10. Contact: D. M. Scanlon, M.D., symposium chairman, Box 4948, Carmel.

Jan. 24.—**Fresno County Heart Association** Twelfth Annual Physicians' Cardiovascular Symposium. Fresno Elks Club, 5080 East Kings Canyon Road. Friday. 9:00 a.m.-5:00 p.m. $10. Contact Frances Cuthbertson, executive director, Fresno County Heart Association, 1921 East Belmont Avenue, Fresno.

Jan. 25—**Childrens Hospital of Los Angeles** Second Clinical Conference in Pediatric Anesthesiology. Contact: M. Digby Leith, M.D., Childrens Hospital of Los Angeles, 4614 Sunset Boulevard, Los Angeles 27.

Jan. 25-26—**Memorial Hospital of Southern California.** Second Scientific Seminar. Hospital Auditorium, Culver City. Saturday-Sunday. All day. $10 (includes 2 lunches, 1 dinner). Contact: Charles Kruse, M.D., Memorial Hospital of Southern California, 3828 Hughes Avenue, Culver City.

Jan. 29-Feb. 1—(three meetings):

(1) Jan. 29-30: **Western Society for Clinical Research.**

(2) Jan. 30-31: **Western Section American Federation for Clinical Research.**

(3) Jan. 31-Feb. 1: **Western Association of Physicians.**

Contact: Peter H. Forsham, M.D., director, Metabolic Research Unit, University of California Medical Center, MOntrose 4-3600.

Jan. 30-31—**Conference on Comparative Atherosclerosis, Spontaneous and Experimental.** Sponsored by National Heart Institute, Los Angeles Heart Association, and American Heart Association. Beverly Hills Hotel, Beverly Hills. Thursday-Friday. 9:00 a.m.-5:45 p.m. $10 each day. Registration limited to 500. Contact: Mrs. Elizabeth B. McCandless, 2405 West 8th Street, Los Angeles 90057.

FEBRUARY MEETINGS

Feb. 1-2—**Los Angeles Radiological Society.** 6th Annual Midwinter Radiological Conference, 1964. Biltmore Hotel, Los Angeles. Saturday-Sunday. $25 (including 2 luncheon meetings). Contact: Mathew E. O'Keefe, M.D., publicity chairman, 402 East Hadley Street, Whittier.

Feb. 3-7—**San Diego Heart Association.** First Annual Postgraduate Seminar. Monday-Friday. Registration limited to 25. $100. Contact: William J. Kuzman, 3545 - 4th Avenue, San Diego 92103.

Feb. 3-7—**American Thoracic Society.** Second annual postgraduate course: "The Evaluation of Pulmonary Function." Rancho Los Amigos Hospital, Downey. Monday-Friday. Members, $75. Non-members, $100. Registration limited to 90. Contact: Robert E. Randle, M.D., Pulmonary Function Course Planning Committee, 1670 Beverly Boulevard, Los Angeles 90026.

Feb. 6-9—**American College of Physicians.** Combined meeting: Northern California, Nevada, and Southern California. Tropicana Hotel, Las Vegas. Contact: Robert Escamilla, M.D., or George C. Griffith, M.D., 1136 West 6th Street, Los Angeles 90017.

Feb. 7-12—**American Academy of Allergy.** San Francisco. Contact: James O. Kelley, executive secretary, 756 N. Milwaukee, Milwaukee 53212.

Feb. 8-9—**Los Angeles Obstetrical and Gynecological Forum.** For younger specialists and General Practitioners who emphasize obstetrics and gynecology. Ambassador Hotel, Los Angeles. Saturday-Sunday. $25. Residents and Interns, $9.00. Contact: Dee Davis, executive secretary, Los Angeles Obstetrical and Gynecological Forum, 5410 Wilshire Boulevard, Los Angeles 90036.

Feb. 10-14—**Obstetrical and Gynecological Assembly of Southern California.** Nineteenth annual 5-day meeting for Specialists in the 13 Western States, Mexico, and Western Canada. Attendance limited. Monday-Friday. $85.00. Contact: THE COMMITTEE, Obstetrical and Gynecological Assembly of Southern California, 5410 Wilshire Boulevard, Los Angeles 90036.

Feb. 13-15—**Society of University Surgeons.** Los Angeles. Thursday-Saturday. Contact: C. Frederick Kittle, M.D., University of Kansas Medical Center, Kansas City 66103.

Feb. 16-20—**Western Section, American Urological Association.** Fortieth Annual Meeting. Hotel Del Coronado, Coronado. Contact: M. J. Feeney, M.D., registration, 3415 Sixth Avenue, San Diego 92103.

Feb. 17-18—**Institute for Metabolic Research.** "Recent Additions to the Knowledge of Diabetes." Highland-Alameda County Hospital, Oakland. Monday-Tuesday. All day. Fee: to be determined. Contact: L. W. Kinsell, M.D., director, Institute of Metabolic Research.

MARCH MEETINGS

Mar. 4-5—**Los Angeles County Heart Association and Los Angeles Chapter of the California Academy of General Practice.** "First Annual Cardiovascular Symposium for Physicians Practicing General Medicine." Statler Hilton Hotel, Los Angeles. Wednesday-Thursday. 9:00 a.m.-4:30 p.m. $20. (includes two luncheons). Contact: Harold Miller, M.D., 2405 West Eighth Street, Los Angeles 90057.

Mar. 8-12—**Alumni Postgraduate Convention, Loma Linda University School of Medicine.** Mar. 8-9 (Sunday-Monday)—Refresher Courses. White Memorial Medical Center. $10 each half-day course. Mar. 10-12 (Tuesday-Thursday)—Scientific Assembly. Ambassador

Hotel. Members: $10. Non-members: $15. Contact: Jack G. Hallat, M.D., general chairman, 316 North Bailey Street, Los Angeles 90033.

Mar. 13-15—**Anesthesia Section, Los Angeles County Medical Association.** Ninth Annual Postgraduate Assembly in Anesthesiology. Statler Hilton Hotel, Los Angeles. Friday-Monday. $20. Contact: Joseph L. Cadranel, M.D., secretary, 9430 Kirkside Road, Los Angeles 90035.

Mar. 21—**California Society of Anesthesiologists.** Annual Meeting, House of Delegates. Biltmore Hotel, Los Angeles. Saturday. 9:00 a.m. No fee. Contact: Robert E. Ploss, M.D., secretary-treasurer, 39 North San Mateo Drive, San Mateo.

Mar. 21—**California Chapter, American College of Chest Physicians.** Clinical Program. Biltmore Hotel, Los Angeles. Saturday—all day. No fee. Contact: Joseph Boyle, M.D., secretary, 1136 West 6th Street, Los Angeles 90017.

March 22-25—**CALIFORNIA MEDICAL ASSOCIATION 93rd Annual Session.** Scientific theme: "Immunology." Biltmore Hotel, Los Angeles. Sunday-Wednesday. Contact: Mr. John Hunton, executive secretary, 693 Sutter Street, San Francisco 94102.

APRIL MEETINGS

April 4-5—**American Psychosomatic Society.** Sheraton-Palace Hotel, San Francisco. Contact: Joan K. Erpf, executive assistant, 265 Nassau Road, Roosevelt, New York.

April 5-6—**American Otological Society.** St. Francis Hotel, San Francisco. Contact: James A. Moore, M. D., secretary-treasurer, 525 E. 68th St., New York 21.

April 7-8—**American Broncho-Esophagological Association.** St. Francis Hotel, San Francisco. Contact: Daniel C. Baker, Jr., M.D., executive secretary, 903 Park Ave., New York 21.

April 7-9—**American Laryngological, Rhinological and Otological Society.** St. Francis Hotel, San Francisco. Contact: Victor R. Alfaro, M.D., 917 - 20th St., N. W., Washington 6, D. C.

April 9-11—**Tuberculosis and Health Association of California.** Annual Meeting (held in conjunction with California Thoracic Society Medical Sessions). Statler-Hilton, Los Angeles. Thursday-Saturday. Contact: Mrs. Lois L. Clark, administrative assistant, 130 Hayes Street, San Francisco.

April 10-11—**Children's Hospital of the East Bay.** Twelfth Annual Clifford D. Sweet Lecture combined with a two-day postgraduate seminar. Friday-Saturday. Contact: Henry B. Bruyn, M.D., chairman, Sweet Seminar Committee, Fifty-First and Grove Streets, Oakland.

April 10-11—**American Laryngological Association.** St. Francis Hotel, San Francisco. Contact: Lyman Richards, M.D., executive secretary, 12 Clovelly Rd., Wellesley Hills, Mass.

April 22—**Los Angeles County Heart Association.** Annual meeting. Statler-Hilton, Los Angeles. Wednesday. Noon. Contact: Chauncey A. Alexander, executive director, 2405 West Eighth Street, Los Angeles 90057.

April 29-May 1—**American Cleft Palate Association.** Statler-Hilton, Los Angeles. Contact: Betty Jane McWilliams, Ph.D., secretary-treasurer, University of Pittsburgh.

April 30-May 3—**Hawaii Medical Association.** 108th Annual Meeting. Princess Kaiulani Hotel, Honolulu. Thursday-Sunday. Contact: Randal A. Nishijima, secretary, 1124 Piikoi, Honolulu 14.

FUTURE MEETINGS

(Complete data to follow in later issues)

May 1-3—**Society of Biological Psychiatry.** Los Angeles.

May 1-4—**American Psychoanalytic Association.** Los Angeles.

May 2-3—**Academy of Psychoanalysis.** Los Angeles.

May 4-8—**American Psychiatric Association.** Los Angeles.

May 14-15—**Nevada Academy of General Practice.** Reno or Sparks.

May 15-17—**California Heart Association.** Coronado.

May 23—**Ventura General Hospital Medical Seminar.** Ventura.

May 29-31—**California Society of Anesthesiologists.** Palm Springs.

June 10—**Los Angeles Radiological Society.** Los Angeles.

June 13—**Golden Gate Group Psychotherapy Society.** San Francisco.

June 17-20—**Society of Nuclear Medicine.** Berkeley.

June 18-19—**American Rheumatism Association.** San Francisco.

June 18-20—**Endocrine Society.** San Francisco.

June 18-21—**American Therapeutic Society.** San Francisco.

June 18-22—**American College of Chest Physicians.** San Francisco.

June 19-20—**American Geriatrics Society.** San Francisco.

June 20—**Academy of Tuberculosis Physicians.** San Francisco.

June 21-25—**AMERICAN MEDICAL ASSOCIATION.** San Francisco.

June 21—**Society for Surgery of the Alimentary Tract.** San Francisco.

June 21—**Society for Vascular Surgery.** San Francisco.

June 21-25—**Society for Investigative Dermatology.** San Francisco.

June 22-24—**American Laryngological, Rhinological and Otological Society.** San Francisco.

June 26-July 1—**Second Hawaii Medical Seminar.** Honolulu.

POSTGRADUATE EDUCATION

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Audio-Digest Foundation (a non-profit subsidary of the California Medical Association) provides by subscription twice-a-month tape-recorded summaries of leading national meetings and authoritative surveys of current literature. Seven separate services in: General Practice, Surgery, Internal Medicine, Obstetrics-Gynecology, Pediatrics, Anesthesiology, and Ophthalmology. A new Catalog of outstanding lectures and panel discussions in all areas of medical practice is also available. For information, write: Mr. Claron L. Oakley, Editor, 619 South Westlake Avenue, Los Angeles.

CALIFORNIA COLLEGE OF MEDICINE

April 13-16—**First International Congress of Ophthalmology.** "Specific Problems in Strabismus," presented in cooperation with the David Michael Eye Foundation. Riviera Hotel, Palm Springs. Monday-Thursday. $135. Contact: Congress of Ophthalmology, CCM, 1721 Griffin Avenue, Los Angeles 90031.

STANFORD UNIVERSITY

Mar. 20-21—**Dermatology of the Infant Child and Adolescent.** Friday-Saturday. $35. Contact: George Wilson, M.D., Clinical Associate Professor, Dept. of Dermatology, Stanford University School of Medicine, 300 Pasteur Drive, Palo Alto.

UNIVERSITY OF CALIFORNIA AT LOS ANGELES

Jan. 13-May 11—**Teaching Clinics in the Psychiatric Aspects of Medical Practice.** Monday evenings. 36 hours.*

Jan. 18—**Pediatrics.** Cedars of Lebanon Hospital, Los Angeles. Saturday. 6½ hours.*

Jan. 19—**Obstetrics.** Cedars of Lebanon Hospital, Los Angeles. Sunday. 6½ hours.*

Feb. 8-9—**Office Management of Urological Problems.** Saturday-Sunday. 9 hours.*

Feb. 10—**Surgical Techniques Utilizing the Isolated Intestinal Segment in Urological Procedures.** Monday. 7 hours.*

Feb. 10-Feb. 21—**Prosthetics—Orthotics.** Monday-Friday, 2 weeks. 90 hours. $200.

Feb. 13-April 2—**Bedside Clinics.** Harbor General Hospital, Torrance. Thursday evenings. 16 hours.*

Feb. 15-Feb. 19—**Advanced Seminars on Controversial Areas in Surgery.** Wonder Palms Hotel, Palm Springs. Saturday-Wednesday. 12 hours. $100 plus room and meals.

Feb. 21-23—**Advanced Seminars in Reconstructive Surgery** (including Tissue Transplant and Chemotherapy). Friday-Sunday. 9 hours. $100 plus room and meals.

Feb. 21-23—**Proctology.** Veterans Administration Hospital, West Los Angeles, and UCLA. Friday-Sunday. 15½ hours.*

Feb. 26-Mar. 7—**Postgraduate Medical Lecture Series in Mexico City and Merida.** Monday-Friday. 26 hours. $100. Including Merida, $125.

Feb. 29—**Education for Marriage** (for the General Public). Saturday. 7 hours.*

Feb. 29—**Internal Medicine.** Cedars of Lebanon Hospital, Los Angeles. Saturday. 6½ hours.*

Mar. 1—**Surgery.** Cedars of Lebanon Hospital, Los Angeles. Sunday. 6½ hours.*

Mar. 4-May 20—**Psychiatry for Non-Psychiatrists.** Wednesday evenings. 40 hours.*

Mar. 7—**Practical Management of Diseases of the Mouth.** Saturday. 7 hours.*

Mar. 7-Mar. 28—**Postgraduate Medical Lecture Series in Egypt, Lebanon, and Greece.** Monday-Friday. 32 hours. $200.

Mar. 13-15—**Resuscitation.** Harbor General Hospital, Torrance. Friday-Sunday. 18 hours.*

Mar. 14-15—**The Spine—Anatomy, Pathology, Surgery.** Saturday-Sunday. 12 hours.*

April 4-25—**Postgraduate Medical Lecture Series in Japan, Formosa and Hong Kong.** Monday-Friday. 24 hours. $200. (Including Taiwan, $225.)

April 6-17—**Prosthetics - Orthotics.** Monday - Friday. 90 hours. $200.

April 18-19—**A Symposium on Sexual Problems.** Saturday-Sunday. 12 hours.*

April 20-24—**Child Amputee Prosthetics.** Monday-Friday. 45 hours. $125.

Dates by Arrangement—**Clinical Traineeship**—Anatomy, Anesthesia, Dermatology, Pediatrics, Radioisotopes, Urology: 2 weeks, $150; 4 weeks, $250. Minimum period, 2 weeks.

For information on courses for physicians or ancillary personnel, contact: Thomas H. Sternberg, M.D., Assistant Dean and Head, Department of Continuing Education in Medicine and Health Sciences, U.C.L.A. Medical Center, Los Angeles 24, 478-9711, Ext. 2114.

LOMA LINDA UNIVERSITY

As Arranged—**Traineeships** in clinical and other departments are available by arrangement with department chairmen of the Postgraduate Division. 80 hours minimum.

Anesthesia, 6 months. 250-300 hours. $350.

Pulmonary Diseases—can be arranged.

Continuously—**Illustrated Medical Lectures:** 30-minute tape recordings and accompanying 35-mm filmstrip, 50 to 80 full-color pictures for screen, hand or desk viewer. Available individually or by subscription. 12 or 36 titles per year, all titles produced in one year in any chosen specialty. Projectors and viewers included in subscription plans. Contact: Loma Linda University, Illustrated Medical Lectures, Los Angeles 33.

For course information contact: W. F. Norwood, Ph.D., Assistant Dean and Chairman, Division of Continuing Education, Loma Linda University School of Medicine, 1720 Brooklyn Ave., Los Angeles, California 90033, ANgelus 9-7241, Ext. 214.

PRESBYTERIAN MEDICAL CENTER

Jan. 25—**Surgical Emergencies.** Saturday. 8 hours. $25.

Feb. 8.—**Practical Proctology.** Lane Hall, Presbyterian Medical Center. Saturday. 9:00 a.m.-5:00 p.m. $25.

March 4-6—**Keratoplasty.** Wednesday-Friday. Registration limited. $100. Contact: Lions Eye Foundation, WEst 1-8000.

For information contact: Arthur Selzer, M.D., chairman, Education Committee, Presbyterian Medical Center, Clay and Webster Streets, San Francisco 15. WEst 1-8000.

UNIVERSITY OF CALIFORNIA, SAN FRANCISCO

Jan. 25-26—**Annual Symposium: Man and Civilization:** "The Family Search for Survival." Saturday-Sunday. 18 hours. $25.

Jan. 29-April 22—**Practical Psychotherapy** (continued). Langley Porter Neuropsychiatric Institute. Wednesdays. 11:00 a.m.-5:00 p.m. 60 hours, $25.

Feb. 1-Mar. 7—**The Treatment of Anxiety in Medical Practice.** Herrick Memorial Hospital. Saturdays. 9:00 a.m.-12:00. 18 hours. $10.

Feb. 3—**Medical Aspects of Well Being—Chronic Illness.** Monday. 8 hours. $10.

Feb. 13-14—**Genetics in Ophthalmology.** Thursday-Friday. 16 hours. $65.

Feb. 21-23—**Three Days of Cardiology.** Friday-Sunday. 24 hours. Members: $50. Non-members: $75.

Feb. 24-28—**Course for Physicians in General Practice.** Mount Zion Hospital, San Francisco. Monday-Friday. 32 hours. $100.

Feb. 29-Mar. 1—**Neuropsychiatry in General Practice.** Napa State Hospital. Saturday-Sunday. 16 hours. $20.

Mar. 4-8—**Diagnostic Radiology.** Wednesday-Sunday. 40 hours. $110.

April 3-4—**Proctology.** Friday-Saturday. 14 hours. $15.

Continuously—Courses presented by special arrangement: Principles and Clinical Uses of Radioisotopes (full time, one to three months).

For information on courses for physicians or ancillary personnel, contact: Seymour M. Farber, M.D., Assistant Dean, Dept. of Continuing Education in Medicine and Health Sciences, University of California Medical Center, Room 565-U, San Francisco 22, MOntrose 4-3600, Ext. 179.

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*Fee to be announced.

UNIVERSITY OF SOUTHERN CALIFORNIA

Jan. 9-Mar. 26—**Bedside Clinics and Set Clinics in Internal Medicine.** Los Angeles County Hospital. Thursdays. 7:30-9:30 p.m. 24 hours. $75.

Jan. 18-25—**Postgraduate Refresher Course in San Juan, Puerto Rico.** One week, Saturday-Saturday. 17½ hours. $75.00.

Jan. 30-31—**Introduction to Practical Electrocardiography.** Statler-Hilton Hotel. Thursday-Friday. 8:30 a.m.-5:00 p.m. 14 hours. $40.

Jan. 31-June 12—**Nuclear Medicine** (Part I, II, III). Fridays (1 hour weekly). Part I $50.

Feb. 7-9—**Intensive Seminars in Psychiatric Problems Seen in Medical Practice.** Phoenix, Arizona. Friday-Sunday.† $15.

Feb. 9—**Symposium on Shock.** Statler Hilton Hotel. 9:30 a.m.-4:30 p.m. 6 hours. $15. Luncheon, $4.50.

Feb. 13-14—**Diabetes.** Statler Hilton Hotel. Friday-Saturday. 8:45 a.m.-5:15 p.m. 14½ hours. $30.

Feb. 14-16—**Neurologic Procedures and Principles Useful in Internal Medicine.** Los Angeles County Hospital. Friday-Sunday. 8:30 a.m.-5:30 p.m. 25½ hours. $60.

Mar. 4-May 13—**Pediatric Psychiatry.** Los Angeles County Hospital. Wednesdays. 3:00 p.m.-5:00 p.m. Ten 2-hour sessions. $25.

April 6-11—**Mental Retardation Institute.** Monday-Friday. 7 hours. $50.

April 9-June 11—**Ward Walks in Rare Diseases.** Thursdays. 2 hours weekly. $100.

May 31-June 30—**Third Annual Medical Tours of Europe.** $250.

Aug. 1-12—**Seventh Annual Postgraduate Refresher Course in Hawaii.** $100.

Continuously—**Basic Home Course in Electrocardiography.** One year postgraduate series, ECG interpretation by mail. Fifty-two issues $100. Physicians may register at any time.

Continuously—**Advanced Home Course in Electrocardiography.** One year postgraduate series, ECG interpretation by mail. Fifty-two issues $85. Physicians may register at any time.

For course information contact: Phil R. Manning, M.D., Assoc. Dean, Postgraduate Division. USC School of Medicine. 2025 Zonal Ave., Los Angeles 90033, CApital 5-1511, Ext. 300.

CALIFORNIA MEDICAL ASSOCIATION

Committee on Continuing Medical Education
14th Annual Postgraduate Institutes, 1964

Feb. 6-7—**SOUTHERN COUNTIES,** in cooperation with University of California School of Medicine, San Francisco. **Newer Diagnostic Methods.** El Mirador Hotel, Palm Springs. Chairman: John Cram, M.D., 575 - 5th Street, San Bernardino.

April 10-11—**WEST COAST COUNTIES,** in cooperation with Stanford School of Medicine. FOUR HALF-DAY SESSIONS: **(1) Non-surgical Treatment of Cancer, (2) Infections, (3) Problems in Adolescence, (4) Renal Disease.** Del Monte Lodge, Pebble Beach. Chairman: William B. Wenner, M.D., 726 Cass Street, Monterey.

April 23-24—**NORTH COAST COUNTIES,** in cooperation with UCLA School of Medicine. Brooktrails, Willits. **The Human Kidney in Health and Disease.** Chairman: Patrick R. Allanson, M.D., 728 South State Street, Ukiah.

May 7-8—**SAN JOAQUIN COUNTIES,** in cooperation with Loma Linda University School of Medicine, Ahwahnee Hotel, Yosemite. **Gastroenterology.** Chairman: Leo Goodman, M.D., 1341 Wishon Avenue, Fresno.

June 25-27—**SACRAMENTO VALLEY COUNTIES,** in cooperation with USC School of Medicine. **Kidney Disease.** Harvey's Wagon Wheel, Lake Tahoe. Chairman: William Tucker, M.D., 3560 "Jay" Street, Sacramento.

For information regarding Postgraduate Institutes and Circuit Courses, contact: Continuing Medical Education, California Medical Association, 693 Sutter Street, San Francisco 94102. PRospect 6-9400, Ext. 68.

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†Hours to be announced.

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(give name, title, address)

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THE PHYSICIAN'S *Bookshelf*

THE BODY CELL MASS AND ITS SUPPORTING ENVIRONMENT—Body Composition in Health and Disease—Francis D. Moore, A.B., M.D., M.Ch.(Hon.), Moseley Professor of Surgery, Harvard Medical School; Surgeon-in-Chief, Peter Bent Brigham Hospital; Knud H. Olesen, M.D., D.M.Sc. (Copenhagen), Senior Assistant Physician, Rigshospitalet, Lecturer in Medicine, University of Copenhagen, Denmark; formerly, Fellow of The Lederle International Fellowship Commission and Research Fellow in Surgery, Harvard Medical School; James D. McMurrery, A.B., M.D., Assistant Professor of Surgery, Baylor University College of Medicine; Associate Surgeon, Methodist Hospital; H. Victor Parker, A.B., M.D., Attending Surgeon, The Huron Road Hospital, Cleveland, Ohio; Margaret R. Ball, A.B., Chief Biochemical Technician, Laboratories for Surgical Research of The Harvard Medical School at the Peter Bent Brigham Hospital; and Caryl Magnus Boyden, B.S., M.S., Chief Biophysical Technician, Laboratories for Surgical Research of The Harvard Medical School at the Peter Bent Brigham Hospital. Illustrated by Mildred Codding, A.B., M.A., Surgical Artist, Harvard Medical School. From The Laboratories for Surgical Research and the Department of Surgery of The Harvard Medical School of the Peter Bent Brigham Hospital, Boston, Massachusetts. W. B. Saunders Company, Philadelphia, Pa., 1963. 535 pages, $23.00.

The techniques of multiple isotope dilution are based on the concept that knowledge of a tracer injected into an unknown mass or volume can lead to the precise definition of the size of that volume or mass. It is recognized and pointed out that significant errors can arise from imperfect methods of chemical separation, but the validity of the method lies in reproducible, consistent and valid relationships derived from the assumptions that mixing and separation are predictable, complete and uniform. The total body water is determined from total exchangeable hydrogen; chloride from bromide dilution; the red cell volume appears to have the sharpest definition by these methods. It is pointed out that biologic validation of these laboratory methods is virtually impossible in some structures. The authors feel that the "lean body mass" concept is too inconstant in sick persons, chiefly because the skeleton and certain metabolically inert tissues compromise the values so extensively. They propose the use of the term "body cell mass," measured by total exchangeable potassium, as the chemical homogeneity that contains all the cellular elements concerned with vital functions. The first few chapters are concerned with exposition of the background of the studies, then certain normal parameters and inter-relationships are defined and discussed. Appendix C contains the author's normal values. Part II of the book is concerned with clinical situations, e.g., acute and chronic disease states, sepsis, trauma, hemorrhage, anemia, heart, kidney or liver failure and obesity. The findings by multiple isotope dilution studies in 106 such patients are presented in detail. A "Summary without conclusions" based on studies of sodium, bromide, potassium, chromium, deuterium (some tritium) and blue dye T-1824 simultaneously followed in these cases concludes the work. From these studies a series of extrapolations of the evaluations is done, yielding normal values for normal individuals within a 95 per cent confidence limit from age, weight and sex alone. The variations in disease states studied are then presented in summary form. There is an extensive bibliography by name (not numbered) and two technical appendices and an appendix of normal values from the author's series. There is no index.

The book is so complicated, detailed and esoteric that it will be of significant interest only to research workers in these fields. Its usefulness for the average practicing physician is negligible.

* * *

ANNUAL REVIEW OF MEDICINE—Volume 14—Arthur C. Degraff, Editor, New York University College of Medicine; and William P. Creger, Associate Editor, Stanford University School of Medicine. Annual Reviews, Inc., 231 Grant Ave., Palo Alto, California, U.S.A., 1963. All publications of Annual Reviews, Inc., a non-profit corporation, sell for $8.50 per copy, postpaid (U.S.A.), $9.00 postpaid (elsewhere).

This year's Annual Review of Medicine details some 21 reviews varying in length from 10 to 40 pages and covering a wide variety of subject matter, presented from quite a wide variety of aspects, from the basic on one hand to the clinical on the other.

Although the treatments of the different subjects vary, they have in common certain objectives—to bring together a body of investigation for those students and physicians interested in research and teaching and in practice.

The 1963 volume marks the retirement of David A. Rytand and the appearance of Arthur C. Degraff as the editor, but it keeps the high standard of editorial supervision established through previous years. It is very well indexed, according to both subjects and authors.

As usual, these Annual Reviews are most useful to those wishing to keep as close as possible to the current investigative level of any subject.

Edgar Wayburn, M.D.

* * *

CARE OF MINOR HAND INJURIES—Second Edition—Adrian E. Flatt, M.A., M.D., F.R.C.S., F.A.C.S., Associate Professor of Orthopedic Surgery, University of Iowa, Iowa City, Iowa; Hunterian Professor, Royal College of Surgeons of England. With forewords by Carroll B. Larson and Sir Reginald Watson-Jones. C. V. Mosby Company, St. Louis, Mo., 1963. 274 pages, 120 figures, $10.50.

The second edition of this monograph within four years attests to the good reception of the initial text. Although the layout is relatively unchanged and the revisions minor, the number of illustrations has been increased and the type is more readable.

Divided into two parts, the first covers general principles of hand care including functional anatomy, classification and examination of injuries, surgical and anesthesia techniques plus splinting and control of infection. Part two describes the care of specific injuries and conditions in eleven chapters. Included are wounds of the skin, injuries to the nail, pulp loss, amputations, crush injuries, tendon and joint injuries, minor fractures, burns, infection, and miscellaneous problems.

This is an excellent reference book for minor injuries of the hand.

Robert L. Brown, M.D.

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Oral dosage for adults: Range: 25 mg. t.i.d. to 100 mg. q.i.d. Recommended dosage: 100 mg. to 150 mg. daily in divided doses, depending on severity of symptoms and patient response. **Oral dosage for children:** 6 years and under, 50 mg. daily in divided doses; 6 years and over, 50-100 mg. daily in divided doses.

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AMA Issues Optimistic Report On Medical Education

(Continued from Page 33)

The act for the first time authorizes federal matching grants for construction of teaching facilities. Such matching funds have long been available for construction of research facilities, the report noted, and there has been an apparent disproportionate expenditure of construction funds for research as opposed to teaching facilities.

The increase in the number of students applying for admission to medical schools confirmed the council's prediction a year ago that a declining trend since 1949 reached its lowest point in 1961-62 and would begin an upward swing.

Applicants for medical schools in 1962-63 totaled 15,847, compared with 14,381 in the previous year, an increase of 1,466 or 10 per cent.

Preliminary estimates indicate that the number of applicants for the current 1963-64 class have again increased at least 15 per cent to 18,184, the report said, and it appears likely that the number will increase substantially during the next several years.

Total enrollment in the nation's 87 approved medical schools for 1962-63 was 31,491, up 413 from 1961-62, the report said. However, it said, a more satisfactory estimate of the rate of expansion of teaching facilities may be the addition of 159 first-year students during that year, a 2.2 per cent increase.

The question of whether there is a shortage of full-time medical school faculty members at present, and whether there will be a shortage in the future, is a very complex one which is difficult to answer in absolute terms, the council said.

However, the council concluded that the present supply of full-time faculty was adequate or nearly so. This was based on the over-all continuing decline in the ratio of teachers to students and the fact that the difference in this ratio among schools in good financial condition and the less affluent schools for 1962-63 was 4.5:1, compared with 6.7:1 among the other schools, it was reported.

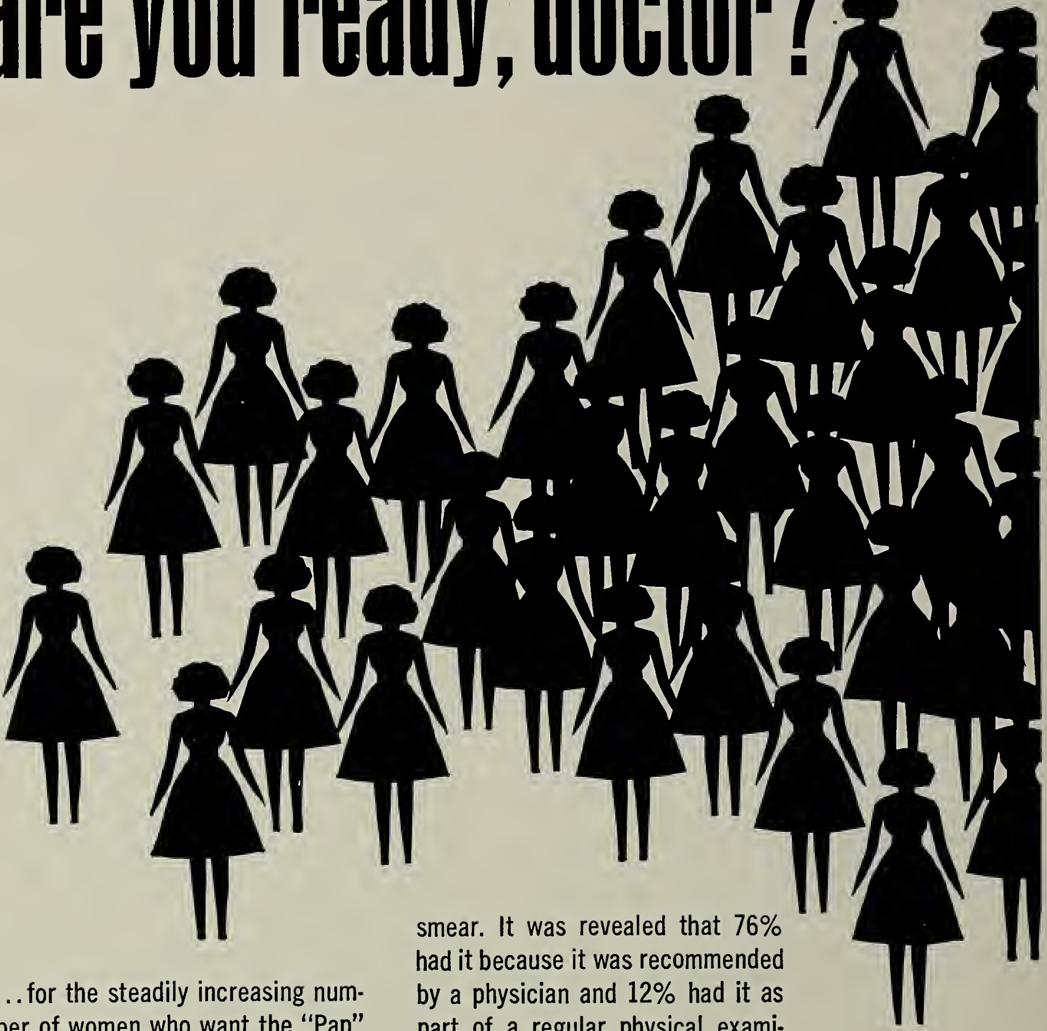
As to the future, the council said, if the same rate of increase in full-time faculty recorded in the past three years continued until 1970, the total number would then be somewhat in excess of the estimated demand.

The 63rd annual report on medical education appears in the November 16 *Journal of the AMA.*

FRACTURES OF THE MIDDLE FACIAL SKELETON—C. C. Woodburn, Jr. Arch. Otolaryng., 78:687 (Nov.) 1963.

Various fractures and fracture combinations of the middle facial skeleton are classified. Methods of management proved effective in restoring the functions of the face are presented, with emphasis on the management of complex fracture patterns. The principle of immobilization by internal skeletal fixation is discussed in detail. Two photographs illustrate the involved techniques.

are you ready, doctor?



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While the educational program conducted by the American Cancer Society has succeeded in alerting women to the vital importance of the "Pap" smear, it is the physician who plays the key role. This was confirmed in a recent survey of women who had had the "Pap" smear. It was revealed that 76% had it because it was recommended by a physician and 12% had it as part of a regular physical examination. Thus a total of 88% had it because of physicians' actions.

As the number of uterine cytological examinations rises, the death rate from uterine cancer declines. Many authorities estimate that most deaths from this disease could be eliminated if these examinations were routinely performed. More and more women are ready for it and are willing to budget time and money for it. Are you ready for them, doctor?

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DOSAGE: Average adult dose—1 teaspoonful after meals and at bedtime with food. Children 6 to 12 years, ½ teaspoonful; 3 to 6 years, ¼ teaspoonful; 1 to 3 years, 10 drops; 6 months to 1 year, 5 drops; after meals and at bedtime. On oral Rx where state laws permit. U. S. Pat. 2,630,400.

CAUTION: Should be used with caution in patients with known idiosyncrasies to phenylephrine HCl and in patients with moderate or severe hypertension, hyperthyroidism or advanced arteriosclerosis. In these patients use should not exceed three days. Hycomine Syrup is generally well tolerated but in some patients drowsiness, dizziness or nausea may occur. May be habit-forming.

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Study of Environmental Factors In Stomach Cancer Needed

A study of environmental factors in stomach cancer is needed to make further inroads against this "perplexing, frustrating" disease.

This is the conclusion of Drs. M. Michael Eisenberg and Edward R. Woodward, Gainesville, Fla., who reviewed the incidence and treatment of stomach cancer in the November *Archives of Surgery*, published by the American Medical Association.

Stomach cancer in the United States has been steadily declining for at least the past two and a half decades, the surgeons pointed out, and this decline is probably on a spontaneous environmental basis.

A downward trend also has been recorded in Holland, Norway and Great Britain, they said. However, they said, Finland, Japan and Iceland continue to sustain the highest rates in the world.

Although important genetic and hereditary factors cannot be completely excluded, they said, the marked variation of overall incidence of stomach cancer in different countries, the higher incidence in higher latitudes, and the inverse correlation with economic status may all represent clues to an environmental basis.

It has also been suggested that the extremely low incidence of spontaneous stomach cancer among lower animals indicates that living and environmental habits may be involved, they said.

Despite progress in surgical techniques and diagnosis, 9 out of 10 persons with stomach cancer die, the authors said.

"It would apear that our efforts need to be turned in another direction," they said. "The primary function of the physician in society is, after all, the prevention of disease."

The authors supported the proposal that, irrespective of the practical difficulties, controlled studies should be made on large groups of school children in those countries in which the rate of gastric malignancy is highest.

Report Rare Complication Of Chickenpox

A rare complication of chickenpox was reported in the November 30 *Journal of the American Medical Association.*

Pericarditis, an inflammation of the membrane containing the heart, occurred in a 25-year-old man hospitalized with chickenpox and mild pneumonia, according to the report.

Evidence indicated that the pericarditis was not caused by a separate infection. It was attributed to an excessive response of the body's defense mechanism to chickenpox.

Authors of the article were Capt. Robert B. Helmly, MC, USA, Washington, D.C., and Capt. John O. Smith Jr., MC, USA, and Lt. Col. Bruno Eisen, MC, USA, Fort McPherson, Ga.

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Automated Medical Records Could Spot Disease Trends

Automated medical records some time in the future may be used for the early detection of adverse drug reactions and epidemics, it was predicted in the October 12 *Journal of the American Medical Association.*

Digital computer techniques have been developed which appear to permit automation of the medical record, according to the *Journal* report.

Future use of the system may permit computer storage of medical records in regional centers and electronic transmission of case histories, Joseph E. Schenthal, M.D., James W. Sweeney, Ph.D., Wilson J. Nettleton Jr., and Richard D. Yoder, M.D., New Orleans, said. This could mean that information gathered from sources throughout the nation is promptly collected and analyzed to detect trends in the incidence of infectious disease, adverse effects of therapeutic or environmental agents, and other major health problems of the population, they said.

Pilot studies have indicated that medical record information can be converted to data processing form, that progressive data can be added to records stored in this way, and that a computer can use any or all information components of these records for search procedures and can correlate or associate an information component of these records with any other component, the authors said.

The system, therefore, could aid the practicing physician and make a large collection of clinical data accessible to scientific investigators, they said.

Although the requirements of the investigator and the practitioner impose two processing methods on the system, the authors said they had produced a system which apparently reconciled these two approaches.

The system, which employs magnetic tape information storage and a new type of self-encoding form, was tested and found satisfactory on more than 2,000 current outpatient records in eight clinical specialties, they said.

More sophisticated equipment and programming techniques made it possible to overcome some previous obstacles in feeding medical records into computers, they said, and human factors were given a great deal of consideration.

Instead of manually encoded punched cards, they said, a standard 8½ × 11-inch check-list form with room for amplification was used by the physician to record patient data. It was possible to enter quantitative information and comments or items not included on the check list in the English language, they said, and the physician was not required to use codes.

To date, the researchers said, evaluation of the system has been based mainly on experience with out-patient records and experience must be gained with hospitalized patients and postmortem records.

The identification of an individual for purposes of data processing still poses many problems, they said. Use of social security numbers is not now an adequate solution because many persons do not have such numbers, they said.

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Allergy Can Be Caused by Chromate from Matches

Chromate can be picked up by the fingers from book or box matches and cause a skin reaction in persons allergic to this compound, Dr. Sigfrid Fregert, Lund, Sweden, reports in a journal of the American Medical Association.

Dr. Fregert conducted an experiment with 44 volunteers using ordinary book matches made in the United States and concluded that chromate from the match heads could contaminate fingertips, especially if the fingers were clammy. Even if the match is not gripped by the head, there is still a risk of contamination, he said.

In a previous investigation, Dr. Fregert said he found that pockets in which boxes of matches are carried become contaminated with chromate and this probably occurs to some extent with book matches.

Persons with this fairly common allergy should avoid contact with matches and clean pockets in which matches have been carried, he said.

The report appears in the November AMA *Archives of Dermatology.*

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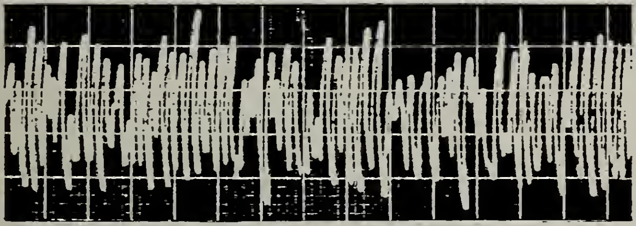
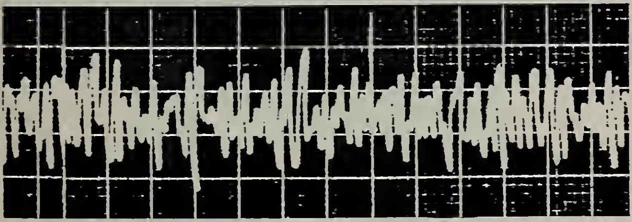
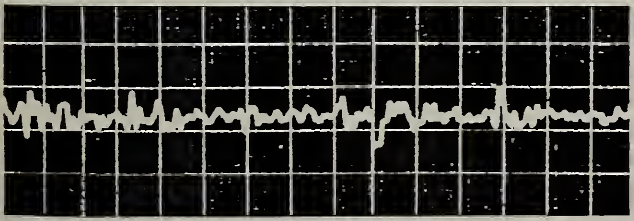


CONTROL TRACING:
Electromyogram shows hyperactivity associated with painful reflex skeletal muscle spasm.



53 MINUTES POST NORFLEX:
One of a series of interim tracings. (Patient reported subjective relief at 30 minutes post-Norflex.)



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INDICATIONS:
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and tension spasms.

CONTRAINDICATIONS:
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flex (orphenadrine citrate) should no
be used in patients with glaucoma
pyloric or duodenal obstruction
stenosing peptic ulcers, prostati
hypertrophy or obstruction at th
bladder neck, cardiospasm (mega
esophagus), and myasthenia gravis

CAUTIONS & SIDE EFFECTS:
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especially with higher dosage: Dr
mouth, tachycardia, palpitation, ur
nary hesitancy or retention, blurre
vision, dilation of the pupil, increase
ocular tension, weakness, nausea
vomiting, headache, dizziness, cor
stipation, rash and drowsiness. Mer
tal confusion may appear in th
elderly. Dosage reduction usuall
eliminates side effects. Use wit
caution in patients with tachycardia
Some patients may experience trar
sient episodes of lightheadedness c
dizziness following injections of Nor
flex (orphenadrine citrate).

DOSAGE:
INJECTABLE (I.V. or I.M.), one 2c
ampul every 12 hours.
TABLETS: one b.i.d. Tablet and ir
jectable forms may be used concur
rently.

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Each 2cc ampul contains 60 mg
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tains 100 mg orphenadrine citrate

Photograph of oscillogram tracings taken during tests

Expect Rise in Twin Births

An increase is expected in the percentage of twins in the world's population, according to an article by Clifford B. Hicks in the December *Today's Health* magazine, published by the American Medical Association.

"With the rise of modern medicine, many premature twins are saved who would have been lost in the past," the article said. "Since the tendency to have twins is inherited, and more twins are being saved, it seems inevitable that the percentage of twins in the total population will rise slowly but steadily."

There's considerable variation in the rate of twin births throughout the world, the article pointed out. In the United States, it said, the rate is 1 in every 86 live births but in Denmark it is 1 in every 60 while twinning is rare in Japan. Even within the United States, it said, there are geographical differences with a rate of 1 in every 66 births in Kentucky and 1 in every 123 in Nevada.

After one set of twins, the chances of a mother having another set zoom to about five times the national average, or 1 in 17 live births, the article said.

Twins definitely do "run in the family," it was pointed out. In this respect, the article said, there is evidence that the world's record mother may have been an Austrian woman who reportedly bore 69 children, including four sets of quadruplets, seven sets of triplets and 16 sets of twins.

Discussing various types of twins, the article said identical twins, who develop from one egg, are not really identical but their simillarities are amazing. For example, differences can be detected in their handwriting and fingerprints, it was pointed out.

"Although carbon-copy twins start with identical make-up and their environments appear to be the same, there are countless minor differences in their surroundings that cause them to develop into two individuals, two separate personalities," the article said.

Once in every four identical-twin births, it said, the babies are literally reflections of each other. Termed mirror-imaging, it said, the physical characteristics of one side of one twin's body are reflected in the opposite side of the other.

Mirror-imaging led to the one case on record when identical twins could not even tell themselves apart, according to the article. Sir Francis Galton, famous expert on heredity, reported that a young girl began a conversation with her own reflection in a mirror, in the belief that it was her mirror-image sister, it said.

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References: 1. Raddin, J. B., and Dowell, L. B.: Amer. J. Gastroent. **37**:24-40 (January) 1962. 2. Calloway, N. O.: Article to be published. 3. Reichert, J. L.: Pediat. Clin. N. Amer. **2**:527-538 (May) 1955. 4. Hootnick, H. L.: J. Amer. Geriat. Soc. **4**:1021-1030 (October) 1956.

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REFERENCES AND REVIEWS

ELASTIC MEMBRANES OF THE DEVELOPING HUMAN AORTA—H. H. Frankel et al. Arch. Path., 76:474 (Nov.) 1963.

A histochemical and morphological study of the development of the human aorta from embryo to early adulthood was made. In a 15 mm crown-rump (CR) of a 6.5-week-old human embryo, fine thread-like aldehyde fuchsin positive intertwining fibers were discernible in the aorta. An incompletely formed internal elastic lamina was observed in a 25 mm CR (7-week) embryo. At this stage the membrane was composed entirely of alcian blue positive fibers. However, with increasing age, the elastic membranes were composed of a pink periodic acid-Schiff (PAS positive core) surrounded by an alcian blue positive sheath. Various histochemical reactions indicated that the first elastin formed may consist chiefly of an acid mucopolysaccharide substance. With development of the membrane, the acidic groups of acid mucopolysaccharide substances may combine with basic amino acids of proteins to form neutral mucopolysaccharide-protein complexes (PAS positive core).

* * *

ULCERATIVE COLITIS: REPORT OF PROGRESS, BASED ON RECENT LITERATURE—T. P. Almy and C. M. Lewis. Gastroenterology, 45:515 (Oct.) 1963.

The last two years have provided no new departure from previous conceptions of the nature and the management of ulcerative colitis, but valuable information has been added regarding its epidemiology and the pathogenetic role of immunologic mechanisms. The uses and limitations of therapy with corticosteroids have been better established, and the indications for emergency surgery more clearly defined. Extensive studies of ileosigmoidostomy and of postileostomy problems have been reported.

* * *

AUTOSOMAL DISORDERS—J. Lejeune. Pediatrics, 32:326 (Sept.) 1963.

A general review of the current and personal data on autosomal disorders, trisomy, translocations, and dosage effect lead to the analysis of (1) the predisposing factors: maternal aging, structural changes, and interchromosomal effects; (2) the time of occurrence, the mosaics and the exceptional twins (monozygotic heterokaryotic) being taken into account; and (3) the biochemical consequences of the genic imbalance. The mapping problem and the pathogenesis of the autosomal syndromes are considered.

* * *

PROGNOSIS AND TREATMENT OF TUBERCULOSIS AMONG CHILDREN—J. A. Myers. Dis. Chest., 44:27 (July) 1963.

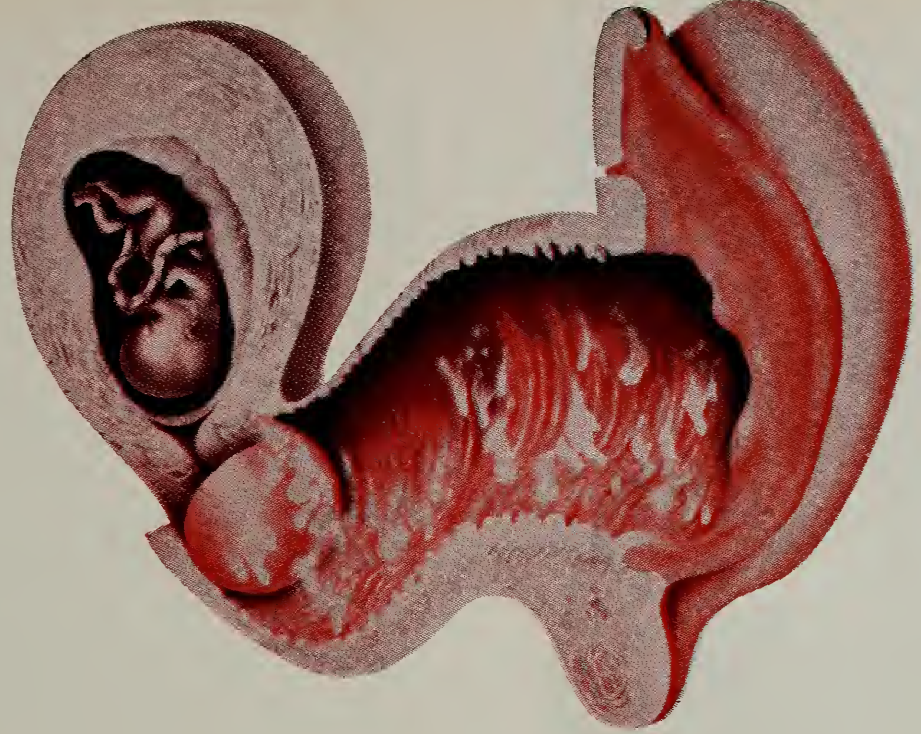
The prognosis of primary tuberculosis is generally excellent. Its course in the human body has not ben changed by any method of treatment, including the use of antituberculosis drugs and resection. Between 2 per cent and 3 per cent of those who become infected in infancy and early childhood develop endogenous reinfections resulting in meningitis and miliary dissemination which are usually fatal.

* * *

RIGHT THORACOTOMY REPAIR OF MASSIVE ESOPHAGEAL HIATUS HERNIA—L. M. Jackson, D. A. Killen and W. Ware. Milit Med 128:1128 (Nov) 1963.

An unusual case of esophageal hiatus hernia characterized by displacement of the entire stomach into the lower mediastinum is reported. Repair of the hernia was successfully accomplished via a right thoracotomy approach.

(Continued on Page 62)



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*Bernstine, J. B., and Rakoff, A. E.: Vaginal Infections, Infestations and Discharges, New York, The Blakiston Company, Inc., 1953.
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REFERENCES AND REVIEWS

(Continued from Page 60)

Peristapedial Elastic Fibers—M. Harty Arch Otolaryng 78:754 (Dec) 1963.

Some of the problems associated with the mobility of the stapes in hearing are considered. The influence of the elastic fiber pattern in the annular ligament on the movements of the foot plate are described. Emphasis is placed on the smooth and silent action of the incudius stapedial joint provided by the elastic capsule. The action and reaction between the stapedius muscle and the elastic fibers in the annular ligament are discussed.

* * *

Carcinoma of the Pyriform Sinus—M. H. McGavaran et al. Arch Otolaryng 78:826 (Dec) 1963.

An analysis of 52 cases of carcinoma of the pyriform sinus, treated primarily by radical surgery, indicated three and five-year cancer cure rates of 50% and 41%, respectively. This disease occurs in an older population and is diagnosed late in its course, with 85% of the patients in this series having pathologically proved cervical lymph node metastases. The primary therapy must therefore encompass the cervical lymph nodes regardless of the clinical evaluation. Pharyngeal recrudescence and persistent carcinoma in the neck account for the majority of cancer deaths. The therapeutic implications of these findings are discussed.

* * *

Inferior-Mesenteric-Artery Syndrome Following Translumbar Aortography—P. H. Guilfoil. New Eng. J. Med., 269:12 (July 4) 1963.

An inferior mesenteric artery syndrome has been noted to develop spontaneously after surgical occlusion of the inferior mesenteric artery. Attention is drawn to the fact that this syndrome also may develop after translumbar aortography. One case is presented and ten others are summarized.

* * *

Diagnosis of Renal Tumors With Special Consideration of Radioisotope Methods—K. zum Winkel and O. Hallwachs. Lagenbecks Arch Klin Chir 303:187 (No.3) 1963.

After commenting on the relatively high incidence of hematuria as the initial symptom in renal tumors, the authors mention that colicky pains caused by ureteral blockage with coagulated blood is more frequent in the presence of renal tumors than in other forms of hematuria. Other symptoms suggestive of renal tumor include continous loss of weight, periodic bouts of fever, and continous indefinite pains in the region of the kidney. A renal tumor may produce variococele by pressure on the spermatic vein or by infiltrating growth into other blood vessels even before it becomes palpable. Customary diagnostic methods, particularly the roentgenologic ones are mentioned. Two methods that utilize radioisotopes are nephrography with isotopes and the scintiscanning method (renal scintography). The authors used these in 6 men and 9 women. Nephrography with radioactive isotopes was carried out in 14 patients and functional changes were detected in all. However, the reduced concentration or retarded evacuation of *o*-iodohippurate (Hippuran) did not differ from similar disturbances in patients with glomerular nephritis or pyelonephritis. The scintiscanning method was carried out in all 15 patients; in 12 after injection of chlormerodrin (Neohydrin) labeled with Hg^{203} and in 3 after injection of *o*-iodohippurate labeled with I^{131}; the results are tabulated and discussed. This procedure is particularly valuable in the demonstration of defects in the renal parenchyma. Renal scintiscanning should be used whenever a renal tumor is suspected.

(Continued on Page 66)

BOARD CERTIFIED NEUROLOGIST, eligible in psychiatry, desires association with group or individual. Experienced in EEG, EMG, angiography, myelography, etc. California license. Reply to Box No. 97,335, California Medicine.

ANESTHESIOLOGIST—Residency trained, 34 years old, male anesthesiologist seeks location with institution or group of anesthesiologists. Available immediately. Box No. 97,455, California Medicine.

ADMINISTRATIVE POSITION—Full time or part time, desired by Board certified general surgeon; age, 38 years; good health; married, with family; F.A.C.S.; prefer west or southwest location. Reply to Box No. 97,520, California Medicine.

OPTHALMOLOGIST—Board eligible, finishing residency, age 32, military service completed, family; desires association or partnership with congenial group or individual. Write Box No. 97,535, California Medicine.

OTOLARYNGOLOGIST—Age 31, married, seeks association, private or clinic practice. Board eligible, and available July, 1964. Trained in all aspects of otolaryngology. Please include all particulars in reply. Ben Thal, M.D., 1344 Kilmer Ave., Minneapolis, Minnesota 55426.

LOCUM TENENS—Surgeon, white, male, 7 years' training, 30 years experience general surgery, M.S., Ph.D.; F.A.C.S. 30 years. Desires limited surgical practice or small hospital with some general practice. Prefer small city. Available January 1 to June 1, 1964. Please reply to Box No. 97,555, California Medicine.

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PATHOLOGIST, age 33, certified, California licensed. Wishes hospital appointment: will consider association. Secure credentials with references (no obligation) from Continental Pacific Medical Bureau, Agency, 430 No. Camden Drive, Beverly Hills, California.

YOUNG RESIDENCY TRAINED PEDIATRICIAN desires asociation with other pediatrician or obstetrician, preferably in San Fernando Valley or surounding area. Box No. 97,545, California Medicine.

MD—Available from March 23-June 12, 1964. Married 2 years, no children; Caucasian; Protestant; graduate U. of Illinois 1960; licensed in California. Experience: Internship one year at Frenso County; 6 months Staff Physician at San Joaquin Hospital; 18 months Industrial Medicine while in the Army; 6 months Basic Science Course in opthalmology at Harvard. Box No. 97,580, California Medicine.

INTERNIST-NEUROLOGIST: Board eligible in both specialties. Interested in group association, with prime interest in medical neurology. Presently Assistant Chief, Neurology service, large Military Hospital. Available August, 1964. Age 31, married, 4 children. Box No. 97,530, California Medicine.

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(Continued on Page 66)

REFERENCES AND REVIEWS

(Continued from Page 62)

KVEIM TEST IN SARCOIDOSIS—R. Anderson, D. G. James, R. M. Peters, and A. D. Thomson Lancet 2:650 (Sept) 1963.

Kveim tests were performed on 765 patients, of whom 152 suffered from sarcoidosis which had been confirmed by organ biopsy; 315 were sarcoidosis suspects and 298 had other conditions. In the first group, 64% of the test reactions were positive, in the second 70%, and in the third group less than 2% were positive. The Kveim test was positive more frequently in those patients with active subacute sarcoidosis than in those with the chronic or inactive forms of the disease. The nature of the Kveim reaction is unknown, but may be related to a delayed type of hypersensitivity reaction.

A SEROTONIN ANTAGONIST, CYPROHEPTADINES: II. THE TREATMENT OF VASCULAR-TYPE HEADACHE AND PRURITUS —J. Miller. Ann Allerg 21:588 (Oct) 1963.

Studies were carried out to evaluate the clinical effectiveness of a new antiserotonin compound, cyproheptadine, in the treatment of migraine and histamine headache and pruritic dermatosis, respectively. The compound proved helpful for the symtomatic relief of many allergic conditions and more notably, vascular-type headache. The effectiveness of the drug may be due to both its antihistaminic and tranquilizing properties. It was found to be almost free of toxicity.

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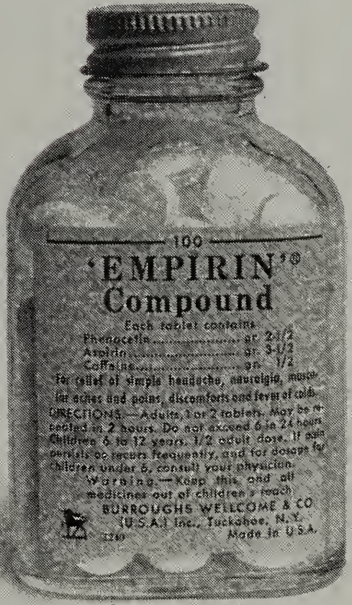
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Bert L. Halter, San Francisco (Chmn.)	1966

* * *

BUREAU OF
Research and Planning

John J. Sheehy, Riverside	1964
Burt L. Davis, Palo Alto	1964
H. Russell Fisher, Glendale	1964
James R. Powell, Stockton (Secy.)	1965
T. Eric Reynolds, Oakland	1965
Gerald W. Shaw, Santa Monica (Chmn.)	1965
Franklin F. Ham, Van Nuys	1966
John T. Saidy, San Mateo	1966

EX-OFFICIO:
Samuel R. Sherman, San Francisco
James C. Doyle, Beverly Hills
Carl E. Anderson, Santa Rosa

Judicial COMMISSION

Donald A. Charnock, Los Angeles (Chmn.)	1964
Albert E. Long, San Francisco	1964
Arlo A. Morrison, Ventura	1964
Floyd O. Due, Oakland	1965
Sidney J. Shipman, San Francisco	1965
Francis E. West, San Diego	1965
Douglas G. Campbell, San Francisco	1966
W. Philip Corr, Riverside (Secy.)	1966
L. E. Wilson, Anaheim	1966

* * *

Scientific Board

William W. Belford, San Diego	1964
Jerome W. Bettman, San Francisco	1964
John B. Dillon, Los Angeles	1964
L. Henry Garland, San Francisco	1964
Charles E. Grayson, Sacramento	1964
Don King, San Francisco	1964
Clayton Loosli, Los Angeles	1964
Lowell A. Rantz, Palo Alto	1964
Victor Richards, San Francisco	1964
David Rubin, Los Angeles	1964
Keith P. Russell, Los Angeles	1964
Packard Thurber, Jr., Los Angeles	1964
Lewis T. Bullock, Los Angeles	1965
Albert C. Daniels, San Francisco	1965
Knox H. Finley, San Francisco	1965
Walter E. Heck, San Francisco	1965
Herbert A. Holden, San Leandro	1965
Edmund L. Keeney, La Jolla	1965
Stuart C. Knox, Hollywood	1965
William P. Longmire, Jr., Los Angeles	1965
J. G. Moore, Los Angeles	1965
Telfer B. Reynolds, Los Angeles	1965
Saul J. Robinson, San Francisco	1965
John B. deC. M. Saunders, San Francisco	1965
David A. Wood, San Francisco	1965
Grace B. Bell, Los Angeles	1966
Gerson R. Biskind, San Francisco	1966
Leland B. Blanchard, San Jose	1966
Eugene M. Farber, Palo Alto	1966
A. J. Franzi, San Francisco	1966
L. S. Goerke, Los Angeles	1966
George C. Griffith, Los Angeles	1966
Joseph J. Kaufman, Los Angeles	1966
Alonzo J. Neufeld, Los Angeles	1966
Donald W. Petit, Pasadena	1966
Paul C. Samson, Oakland	1966
Edward B. Shaw, San Francisco (Chmn.)	1966
Malcolm S. M. Watts, San Francisco	1966

EX-OFFICIO: Dwight L. Wilbur, San Francisco

Executive Committee

William W. Belford, San Diego	1964
L. Henry Garland, San Francisco	1964
Clayton G. Loosli, Los Angeles	1964
Victor Richards, San Francisco	1964
Lewis T. Bullock, Los Angeles	1965
Albert C. Daniels, San Francisco	1965
Edward B. Shaw, San Francisco (Chmn.)	1966
George C. Griffith, Los Angeles	1966
Malcolm S. M. Watts, San Francisco	1966

EX-OFFICIO: Dwight L. Wilbur, San Francisco

Committee on Scientific Assemblies

Victor Richards, San Francisco (Chmn.)	1964
John B. Dillon, Los Angeles	1964
Lowell A. Rantz, Palo Alto	1964
Albert C. Daniels, San Francisco	1965
William P. Longmire, Jr., Los Angeles	1965
J. G. Moore, Los Angeles	1965
Telfer B. Reynolds, Los Angeles	1965
J. B. deC. M. Saunders, San Francisco	1965
George C. Griffith, Los Angeles	1966

Committee on CALIFORNIA MEDICINE

Don King, San Francisco	1964
Clayton G. Loosli, Los Angeles (Chmn.)	1964
David Rubin, Los Angeles	1964
Grace B. Bell, Los Angeles	1966
Eugene M. Farber, Palo Alto	1966

Committee on Nominations

William W. Belford, San Diego	1964
William P. Longmire, Jr., Los Angeles	1965
Malcolm S. M. Watts, San Francisco (Chmn.)	1966

Continuing Medical Education

Victor Richards, San Francisco	1964
Albert C. Daniels, San Francisco (Chmn.)	1965
A. J. Franzi, San Francisco	1966
Alonzo J. Neufeld, Los Angeles	1966
Donald W. Petit, Pasadena	1966

Scientific Information

L. Henry Garland, San Francisco (Chmn.)	1964
Edmund L. Keeney, La Jolla	1965
Stuart C. Knox, Hollywood	1965
Gerson R. Biskind, San Francisco	1966
L. S. Goerke, Los Angeles	1966

Committee on Maternal and Child Care

Russell W. Mapes, Beverly Hills	1964
Keith P. Russell, Los Angeles (Chmn.)	1964
Charles M. Blumenfeld, Sacramento	1965
Herbert A. Holden, San Leandro	1965
Saul J. Robinson, San Francisco	1965
Leland B. Blanchard, San Jose	1966
James W. Ravenscroft, San Diego	1966

Committee on Cancer

John W. Cline, San Francisco	1964
Sol R. Baker, Beverly Hills	1965
Walter E. Heck, San Francisco	1965
John G. Walsh, Sacramento	1965
David A. Wood, San Francisco (Chmn.)	1965
Burt L. Davis, Palo Alto	1966
Paul C. Samson, Oakland	1966

SUB-COMMITTEES, COMMITTEE ON CANCER:

Committee on Cancer Education

Sol R. Baker, Beverly Hills (Chmn.)	1964
Paul H. Deeb, Loma Linda	1964
Werner Duemling, San Diego	1964
Byron Hall, San Francisco	1964
Robert W. Jamplis, Palo Alto	1964

Committee on Tumor Tissue Registry

E. M. Butt, Los Angeles	1964
John W. Cline, San Francisco (Chmn.)	1964
Lewis M. Guiss, Los Angeles	1964
James E. Kahler, Los Angeles	1964
Carl M. McCandless, San Francisco	1964

Committee on Consultative Tumor Boards

Bert L. Halter, San Francisco	1964
Walter E. Heck, San Francisco (Chmn.)	1964
Carl L. Moore, Bakersfield	1964
Otto Pflueger, San Francisco	1964
Victor Richards, San Erancisco	1964

Committee on New and Unproved Methods of Cancer Treatment

Dexter T. Ball, Santa Ana	1964
L. Henry Garland, San Francisco	1964
Paul C. Samson, Oakland (Chmn.)	1964
Ray Seavers, Jr., San Bernardino	1964
Jerome A. Weinbaum, Chico	1964

CONSULTANT:
Kenneth F. Ernst, Berkeley

* * *

Finance COMMITTEE

Donald M. Campbell, San Francisco
James W. Dalton, Santa Barbara
Burt L. Davis, Palo Alto (Chmn.)
John F. Murray, Fresno
J. Norman O'Neill, Los Angeles

* * *

COMMITTEE ON *Legislation*

Dan O. Kilroy, Sacramento (Chmn.)
Stuart C. Knox, Los Angeles
Samuel R. Sherman, San Francisco

* * *

Special COMMITTEES

Benevolence Fund Operation Committee

Clyde L. Boice, Palo Alto
Ford P. Cady, Los Angeles (Chmn.)
Alexander Fraser, San Francisco
Elizabeth Mason Hohl, Los Angeles
Don C. Musser, San Francisco
George Wolf, Fresno

Auxiliary Advisory Board

Samuel R. Sherman, San Francisco
James C. Doyle, Beverly Hills
Matthew N. Hosmer, San Francisco
Franklin F. Ham, Van Nuys
John Morrison, San Leandro

Officers of Scientific Sections

Members who contemplate presentation of scientific papers should promptly address the secretary of the proper section at the address shown below.

Allergy

Walter R. MacLaren...Chairman
696 East Colorado Boulevard, Pasadena 91101
Leo R. Melcher...Secretary
150 Arch Street, Redwood City 94062
John S. O'Toole...Assistant Secretary
3616 Main Street, Riverside 92501

Anesthesiology

James S. West...Chairman
Box 8914, Los Angeles 90056
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6580 Avenida Mirola, La Jolla 92037
Bruce M. Anderson...Assistant Secretary
439 30th Street, Oakland 94609

Dermatology and Syphilology

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1516 Napa Street, Vallejo 94590
Norman E. Levan...Secretary
USC School of Medicine, Rm. 10620, LACGH, 2025 Zonal Avenue, Los Angeles 90033
Robert G. Walton...Assistant Secretary
1700 McHenry Village Way, Modesto 95350

Ear, Nose and Throat

William F. Baxter...Chairman
762 Altos Oaks Drive, Los Altos 94022
Irwin Harris...Secretary
4759 Hollywood Boulevard, Los Angeles 90027
Thomas L. Soss...Assistant Secretary
333 North San Mateo Drive, San Mateo 94401

Eye

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Byron H. Demorest...Secretary
5301 F Street, Sacramento 95819
Victor G. Fellows, Jr....Assistant Secretary
595 Buckingham Way, San Francisco 94117

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Merlin A. Hendrickson...Secretary
238 North Riverside Avenue, Rialto 92376
Leland B. Blanchard...Assistant Secretary
678 East Santa Clara Street, San Jose 95112

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1111 University Drive, Menlo Park 94027
Harry E. Peters, Jr....Secretary
400 29th Street, Oakland 94609
David B. Sheldon...Assistant Secretary
10911 Weyburn Avenue, Los Angeles 90024

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5592 Santa Fe Avenue, Los Angeles 90058
C. Frederick Burton...Secretary
478 30th Street, Oakland 94609
Rufus J. Walker...Assistant Secretary
740 South Olive Street, Los Angeles 90014

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Harney M. Cordua, Jr....Chairman
2561 First Avenue, San Diego 92103
James H. Thompson...Secretary
490 Post Street, San Francisco 94102
Walter P. Martin...Assistant Secretary
211 Cherry Street, Long Beach 90802

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303 North 15th Street, San Jose 95112
Ralph L. Hoffman...Secretary
2111 Fifth Avenue, San Diego 92101
Karl L. Schaupp, Jr....Assistant Secretary
490 Post Street, San Francisco 94102

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U.C. Medical Center, San Francisco 94122
G. Wilbur Westin...Secretary
2300 South Hope Street, Los Angeles 90007
John F. Cowan...Assistant Secretary
2243 Van Ness Avenue, San Francisco 94109

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15107 Van Owen Street, Van Nuys 91405
Melvin B. Black...Secretary
St. Luke's Hospital, 1580 Valencia Street, San Francisco 94110
William C. Herrick, Sr....Assistant Secretary
233 A Street, San Diego 92101

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Lawrence E. Reck...Chairman
2950 Sixth Avenue, San Diego 92103
Jack W. Bills...Secretary
14914 Sherman Way, Van Nuys 91405
Leo S. Bell...Assistant Secretary
36 North San Mateo Drive, San Mateo 94401

Physical Medicine

Frances Baker...Chairman
1 Tilton Avenue, San Mateo 94401
O. Leonard Huddleston...Secretary
1910 Ocean Front, Santa Monica 90405
Gregory Bard...Assistant Secretary
U.C. Medical Center, San Francisco 94122

Preventive Medicine and Public Health

Herbert Bauer...Chairman
Yolo County Health Dept., P.O. Box 532, Woodland 95696
Morris L. Grover...Secretary
100 North Garfield Avenue, Pasadena 91101
Anita E. Faverman...Assistant Secretary
Alameda County Health Dept., 499 Fifth Street, Oakland 94607

Psychiatry and Neurology

Henry S. Colony...Chairman
411 30th Street, Oakland 94609
Allen J. Enelow...Secretary
910 Via de la Paz, Pacific Palisades 90272
George Y. Abe...Assistant Secretary
Metropolitan State Hospital, Norwalk 90650

Radiology

Walter Gaines...Chairman
120 St. Matthews Avenue, San Mateo 94401
John L. Gwinn...Secretary
Children's Hospital, 4614 Sunset Boulevard, Los Angeles 90027
John C. Bennett...Assistant Secretary
St. Mary's Hospital, 2200 Hayes Street, San Francisco 94117

Urology

Henry Bodner...Chairman
4911 Van Nuys Boulevard, Van Nuys 91403
Michael J. Feeney...Secretary
3415 Sixth Avenue, San Diego 92103
Carl E. Burkland...Assistant Secretary
5301 F Street, Sacramento 95819

Delegates and Alternates

TO THE AMERICAN MEDICAL ASSOCIATION

DELEGATES		ALTERNATES
Leopold H. Fraser, Richmond	(1963-1964)	Hartzell H. Ray, San Mateo
Arthur A. Kirchner, Los Angeles	(1963-1964)	Dudley M. Cobb, Los Angeles
Dwight L. Wilbur, San Francisco	(1963-1964)	Francis J. Cox, San Francisco
J. Norman O'Neill, Los Angeles	(1963-1964)	William F. Quinn, Los Angeles
J. Lafe Ludwig, Los Angeles	(1963-1964)	Harold Kay, Oakland
Burt L. Davis, Palo Alto	(1963-1964)	Leon P. Fox, San Jose
Arlo A. Morrison, Ventura	(1963-1964)	John G. Morrison, San Leandro
James E. Feldmayer, Exeter	(1963-1964)	Charles Grayson, Sacramento
O. W. Wheeler, Riverside	(1963-1964)	Wilbur Bailey, Los Angeles
Malcolm C. Todd, Long Beach	(1963-1964)	Alfred J. Murieta, Jr., Los Angeles
J. E. Vaughan, Bakersfield	(1963-1964)	Joseph P. O'Connor, Pasadena
Samuel R. Sherman, San Francisco	(1964-1965)	Albert G. Miller, San Mateo
Henry Gibbons, III, San Francisco	(1964-1965)	Robert Combs, San Francisco
John M. Rumsey, San Diego	(1964-1965)	Francis E. West, San Diego
Eugene F. Hoffman, Los Angeles	(1964-1965)	Edward H. Crane, Jr., Inglewood
Warren L. Bostick, San Rafael	(1964-1965)	Walter H. Brignoli, St. Helena
J. B. Price, Santa Ana	(1964-1965)	Donald C. Dodds, Oakland
Ralph C. Teall, Sacramento	(1964-1965)	Robb Smith, Orange Cove
James C. Doyle, Beverly Hills	(1964-1965)	Homer C. Pheasant, Los Angeles
Wilbur G. Rogers, Glendale	(1964-1965)	Carl M. Hadley, San Bernardino
Charles B. Hudson, Oakland	(1964-1965)	Robert L. Watson, Jr., Los Angeles

(Delegates and Alternates to the A. M. A. are elected for terms of two calendar years. Each office is scheduled for election at the Annual Session of the second year shown above.)

Other Organizations and Medical Schools

Board of Medical Examiners of the State of California

Secretary...Raymond M. Wallerius
1021 O Street, Room A547, Sacramento 95814
San Francisco...455 Golden Gate Ave. Room 4184 94102
Los Angeles...107 South Broadway 90012
Sacramento...1021 O Street, Room A547 95814

The Public Health League of California

Executive Secretary...Ben H. Read
510 South Spring Street, Los Angeles 90013
Associate Executive Secretary...E. E. Salisbury
693 Sutter Street, San Francisco 94102
San Francisco...693 Sutter Street 94102
GRaystone 4-1061
Los Angeles...510 South Spring Street 90013
MAdison 6-6151

Department of Public Health of the State of California

Director...Malcolm H. Merrill, M.D.
2151 Berkeley Way, Berkeley 94704
Berkeley...2151 Berkeley Way 94704
THornwall 3-7900
Sacramento...631 J Street 95814
HIckory 2-4711
Los Angeles...703 State Building 90012
MAdison 0-2900

Medical Schools in California

University of California School of Medicine, Medical Center, San Francisco 94122. Dean: William O. Reinhardt, M.D.

Stanford University School of Medicine, 300 Pasteur Drive, Palo Alto 94304. Dean: Robert H. Alway, M.D.

University of Southern California School of Medicine, 2025 Zonal Avenue, Los Angeles 90033. Dean: Clayton G. Loosli, M.D.

Loma Linda University, School of Medicine, 1720 Brooklyn Avenue, Los Angeles 90033. Dean: David Burdg Hinshaw, M.D.

University of California at Los Angeles, School of Medicine, Hilgard Avenue, Los Angeles 90024. Dean: Sherman M. Mellinkoff, M.D.

California College of Medicine: 1721 Griffin Avenue, Los Angeles 90031. Acting Dean: Grace B. Bell, M.D.

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* Deceased

Roster — CALIFORNIA COMPONENT MEDICAL SOCIETIES

Society secretaries are requested to notify California Medicine promptly when changes are indicated in their roster information

ALAMEDA-CONTRA COSTA Medical Assn., 6230 Claremont Ave., Oakland 94618. Meets quarterly.
Paul H. Cronenwett.......President
6230 Claremont Ave., Oakland 94618
J. Brandon Bassett.......Secretary
2930 McClure St., Oakland 94609

BUTTE-GLENN Medical Society, P. O. Box 1008, Chico 95927. Meets Fourth Thursday.
Jay O. Gibson.......President
170 E. 2nd Ave., Chico 95926
Dale W. Ritter.......Secretary
6 Cohasset Circle, Chico 95926

FORTY FIRST Medical Society, 4775 Santa Monica Blvd., Los Angeles 90029.
Loron N. McGillis.......President
11230 Magnolia Blvd., No. Hollywood 91601
Glenn F. Gordon.......Secretary
1630 Del Valle Ave., Glendale 91208

FRESNO County Medical Society, 2155 Amador, Fresno 93721. Meets Second Tuesday, 6:30 p.m., Sunnyside Country Club.
Norman E. Tostenson.......President
1223 Wishon Ave., Fresno 93728
Joseph B. Ford, Jr. ....Secretary
2940 Fresno St., Fresno 93721

HUMBOLDT-DEL NORTE County Medical Society. Meets Second Thursday.
Robert Devine.......President
730 7th St., Eureka 95501
Wells Carey.......Secretary
2822 E St., Eureka 95501

IMPERIAL County Medical Society. Meets Second Tuesday, 8 p.m., Pioneer Memorial Hospital, Brawley.
Nathan Wolf.......President
126 Main St., Brawley 92227
Ernest Brock ....Secretary
200 S. Imperial Ave., Imperial 92251

INYO-MONO County Medical Society. Meets Fourth Tuesday except December, January, February.
D. L. Christenson.......President
380 N. Mt. Whitney Dr., Lone Pine 93545
W. Ray Hartwig.......Secretary
459 West Line, Bishop 93514

KERN County Medical Society, 2603 G Street, Bakersfield 93301. Meets Third Tuesday, 7:30 p.m., Society Office, 2603 G Street, except June, July, August.
Hans E. Einstein.......President
2441 "G" St., Bakersfield 93301
Keith W. Spaulding.......Secretary
2521 "G" St., Bakersfield 93301

KINGS County Medical Society. Meets Second Thursday, 7:00 p.m. Place to be announced.
Clyde Ball.......President
1320 Whitley Ave., Corcoran 93212
Edwin E. Kerr.......Secretary
208 N. Douty St., Hanford 93230

LASSEN-PLUMAS-MODOC-SIERRA County Medical Society. Meets on call.
Joseph F. Narkevitz.......President
P. O. Box 637, Quincy 95971
Lloyd Shannon ....Secretary
P.O. Box 963, Alturas 96101

LOS ANGELES County Medical Assn., 1925 Wilshire Blvd., Los Angeles 90057. Meets First and Third Thursdays, 1925 Wilshire Blvd., Los Angeles.
Elmer F. Gooel.......President
1925 Wilshire Blvd., Los Angeles 90057
George C. Andersen.......Secretary
1925 Wilshire Blvd., Los Angeles 90057

MARIN Medical Society, 1601 Second St., Suite 106, San Rafael 94901. Meets First Thursday, 7:00 p.m.
Calvin Plumhof.......President
711 D St., San Rafael 94901
John McGee ....Secretary
712 D St., San Rafael 94901

MENDOCINO-LAKE County Medical Society.
Thomas Nicholson.......President
408 W. Perkins St., Ukiah 95482
Patrick R. Allanson.......Secretary
728 S. State St., Ukiah 95482

MERCED County Medical Society. Meets Fourth Thursday, Hotel Tioga, Merced.
James A. Parker.......President
535 W. 26th St., Merced 95340
Patrick J. Maloney.......Secretary
656 W. 20th St., Merced 95340

MONTEREY County Medical Society, P. O. Box 308, Salinas 93903. Meets First Thursday.
Osman H. Hull.......President
716 Cass St., Monterey 93940
Joseph E. Turner.......Secretary
1073 Cass St., Monterey 93940

NAPA County Medical Society. Meets Second Wednesday, 980 Trancas St., Napa 94558
E. Paul White, Jr. ....President
980 Trancas St., Napa 94556
Richard Clark.......Secretary
1054 Beard Rd., Napa 94558

ORANGE County Medical Association, 300 S. Flower, Orange 92666. Meets First Tuesday, 7:00 p.m.
Hugh J. Plumb, Jr. ....President
1901 Westcliff Dr., Newport Beach 92663
Laurance A. Mosier.......Secretary
10510 Chapman St., Garden Grove 92640

PLACER-NEVADA County Medical Society. Meets Second Wednesday.
Clifford W. Wauters.......President
701 High St., Auburn 95603
Arthur R. Weaver.......Secretary
701 High St., Auburn 95603

RIVERSIDE County Medical Association, 4175 Brockton Ave., Riverside 92501. Meets Second Monday, 8:00 p.m., El Loro Room, Mission Inn.
William M. Kinney.......President
4175 Brockton Ave., Riverside 92501
Richard W. Trotter.......Secretary
4175 Brockton Ave., Riverside 92501

SACRAMENTO Society for Medical Improvement, 5380 Elvas Ave., Sacramento 95819. Meets Third Tuesday, 8:30 p.m., Sutter Hospital Auditorium.
Glenn A. Pope.......President
2600 Capitol Ave., Sacramento 95818
Orrin S. Cook.......Secretary
1116 - 26th St., Sacramento 95816

SAN BENITO County Medical Society. Meets once a month, except July and August. Time and place to be announced.
Kent S. Taylor.......President
345 5th St., Hollister 95023
Robert D. Quinn.......Secretary
535 Monterey St., Hollister 95023

SAN BERNARDINO County Medical Society, 1875 N. D St., San Bernardino 92405. Meets First Tuesday, 7:30 p.m., Harold's Club, Fontana.
Merlin A. Hendrickson.......President
238 N. Riverside Ave., Rialto 92376
Nicholas P. Krikes.......Secretary
25060 Base Line, San Bernardino 92410

SAN DIEGO County Medical Society, 3427 - 4th Ave., San Diego 92103. Meets Second Tuesday. Location of meetings varies.
Walter R. Nickel.......President
233 A St., San Diego 92101
Purvis L. Martin.......Secretary
2105 5th Ave., San Diego 92101

SAN FRANCISCO Medical Society, 250 Masonic Ave., San Francisco 94118.
John B. Schaupp.......President
250 Masonic Ave., San Francisco 94118
George K. Herzog, Jr.......Secretary
250 Masonic Ave., San Francisco 94118

SAN JOAQUIN County Medical Society. Meets First Thursday, 8:15 p.m., 445 W. Acacia St., P. O. Box 230, Stockton 95201.
James J. Benn, Jr.......President
P.O. Box 230, Stockton 95201
Dora A. Lee.......Secretary
2420 N. California St., Stockton 95204

SAN LUIS OBISPO County Medical Society. Meets Third Saturday, 7:00 p.m., Anderson Hotel, San Luis Obispo 93402.
Richard W. Eells.......President
743 Pismo St., San Luis Obispo 93401
Richard W. Cletsoway.......Secretary
705 Grand Ave., San Luis Obispo 93402

SAN MATEO County Medical Society, 122 El Camino Real, San Mateo 94401. Meets Third Tuesday.
Ward L. Hart.......President
100 Laurel Ave., San Carlos 94401
Howard W. Lindsey.......Secretary
323 N. San Mateo Dr., San Mateo 94401

SANTA BARBARA County Medical Society, 300 W. Pueblo St., Santa Barbara 93105. Meets Second Monday of the month, University Club, 1332 Santa Barbara St., Santa Barbara.
H. L. Stewart, Jr.......President
300 W. Pueblo St., Santa Barbara 93105
Thurman K. Hill.......Secretary
300 W. Pueblo St., Santa Barbara 93105

SANTA CLARA County Medical Society, 1960 The Alameda, San Jose 95126. Meets First Monday.
S. Fred Kaufman.......President
1960 The Alameda, San Jose 95126
Jacob M. Stone.......Secretary
1960 The Almeda, San Jose 95126

SANTA CRUZ County Medical Society. Meets every Second Month, Second Tuesday. Time, place to be announced.
F. H. Koepke.......President
850 Main St., Watsonville 95076
John W. Morris.......Secretary
230 Walnut Ave., Santa Cruz 95060

SHASTA-TRINITY County Medical Society. Meets Second Monday of the month. Place to be announced.
Michael J. Hamilton.......President
1348 Market St., Redding 96001
Robert G. Taylor.......Secretary
1308 Court St., Redding 96001

SISKIYOU County Medical Society. Meets Sunday on call.
William D. Schnack.......President
8 Main St., Weed 94096
Rand Apgood.......Secretary
Medical Center Building, Yreka 96097

SOLANO County Medical Society. Meets Second Tuesday, 8:00 p.m., at different meeting places.
R. Matthew Gibbons.......President
1200 Marin St., Vallejo 94590
John C. Miller.......Secretary
410 Tennessee St., Vallejo 94590

SONOMA County Medical Society, 576 B Street, Santa Rosa 95401. Meets Second Thursday.
A. A. Thurlow, Jr. ....President
576 B St., Santa Rosa 95401
Tetsuro Fujii.......Secretary
576 B St., Santa Rosa 95401

STANISLAUS County Medical Society, 303 Downey Ave., Modesto. Meets Third Tuesday of the month, 7 p.m., Hotel Covell, Modesto 95354.
John S. Woolley.......President
808 13th St., Modesto 95354
Jeanne I. Miller.......Secretary
709 - 18th St., Modesto 95354

TEHAMA County Medical Society. Meets at call of President.
G. W. Ingle.......President
808 Almond St., Corning 96021
C. W. Winning.......Secretary
530 Main St., Red Bluff 96080

TULARE County Medical Society, 1640 West Mineral King, P. O. Box 16, Visalia 93278.
James W. Goettle.......President
424 E. Tulare Ave., Tulare 93274
Philip S. Barber.......Secretary
P. O. Box 16, Visalia 93278

VENTURA County Medical Society. Meets Second Tuesday each month, 7:30 p.m., Los Posas Country Club, Camarillo.
Henry J. Rulfo.......President
302 Glen Ellen Dr., Ventura 93003
F. K. Helbling.......Secretary
3081 Loma Vista Rd., Ventura 93003

YOLO County Medical Society. Meets First Wednesday.
Spencer T. Chester.......President
Woodland Clinic, Woodland 95675
Samuel C. Houston.......Secretary
3 Court St., Woodland 95695

YUBA-SUTTER-COLUSA County Medical Society, 370 Del Norte Ave., Yuba City 95991. Meets Second Tuesday.
Robert H. Greeley.......President
725 4th St., Marysville 95901
Norman K. Noordhoff.......Secretary
320 G St., Marysville 95901

Officers — CALIFORNIA PHYSICIANS' SERVICE — 1963-64

Officers:

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Vice-Chairman of the Board	Burt L. Davis
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Secretary	John E. Vaughan
Assistant Secretary	Warren L. Bostick
Treasurer	Angus C. McDonald
Assistant Treasurer	Mr. John Cowee

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Mr. Ransom M. Cook	San Francisco
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Carl E. Horn	Sacramento
Mr. Philip S. Magruder	Pasadena
Angus C. McDonald	Huntington Park
Gregory C. Murray	Los Angeles
Wilbur G. Rogers*	Glendale
Herman H. Stone	Riverside
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Stanley R. Truman	Oakland
John E. Vaughan	Bakersfield
Milo A. Youel	San Diego

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*Appointed by C.M.A. Council.

†Non-Trustee Members.

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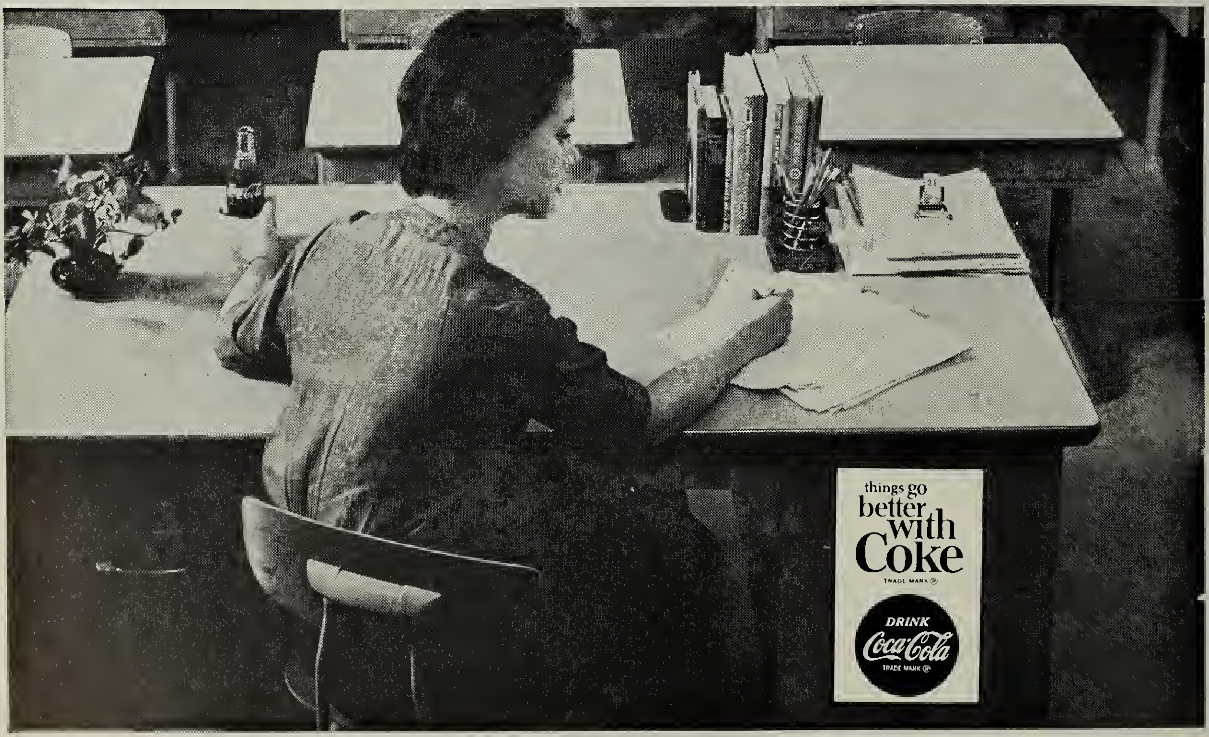

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New Virus Causes Meningitis, Temporary Paralysis

A newly identified intestinal virus caused an outbreak of meningitis in Minnesota in the summer of 1960, it was reported in the Jan. 11 *Journal of the American Medical Association.*

Fifty-eight cases of aseptic meningitis, three with temporary paralysis, occurred in widely scattered parts of the state, mainly in densely populated areas and most frequently in persons 20 to 24 years of age, the report said. Evidence that the new agent, named Giles virus, caused the disease was based on isolation of the virus in 45 cases and blood studies in the other 13.

Aseptic meningitis is a term applied to a symptom complex that can be produced by many different agents. The vast majority of cases are accounted for by nonparalytic polio and other viruses.

As is typical of the syndrome, the principal symptoms among the Minnesota patients were stiff neck, headache, fever, and vomiting, the Journal report said. The three patients with paralytic involvement recovered rapidly with little or no evidence of residual disability.

The new virus was isolated by researchers of the Minnesota State Health Department and the University of Minnesota in 1960.

In that year every case of infectious disease of the central nervous system was being investigated thoroughly because of a state health department study of live poliovirus vaccine, and the condition associated with the virus was immediately tracked down, the report said.

The rapidity with which the virus was isolated, linked to the disease and its epidemic proportions mapped out was termed a "rarity" in an accompanying Journal editorial. Giles virus was "born" under ideal circumstances, it said, since there is often a long delay between isolation of a virus and its identification with a specific disease entity.

The Journal report was written by Herman Kleinman, M.D., Marion K. Cooney, Ph.D., C. Barton Nelson, M.D., Lloyd Boyd, B.A., and Glenna Swanda, B. S., Minnesota Department of Health, Minneapolis, and Richard R. Owen, M.D., University of Minnesota Medical School, Minneapolis.

Giles virus has been tentatively classified as a strain of ECHO 30 virus, the authors said, and is one of the small ether-insensitive viruses with ribonucleic acid cores termed picornaviruses.

Giles virus was declared the cause of the largest single bloc of intestinal infections in Minnesota in 1960, followed by poliovirus infections, Coxsackie B 2 infections, Coxsackie B 4 infections, and other Coxsackie and ECHO viruses.

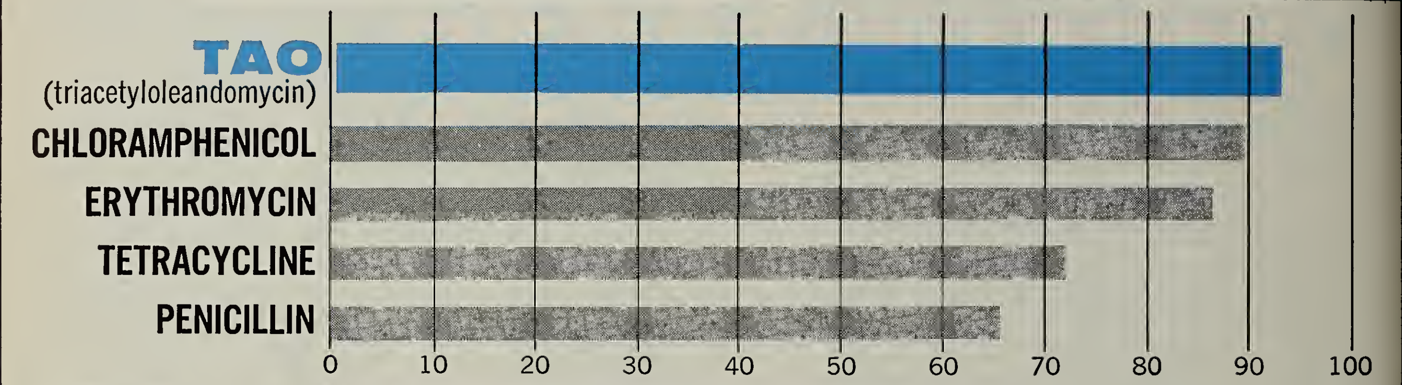
Since the peak incidence of most intestinal virus infections typically occurs in the preschool and early

(Continued on Page 18)

from the 1963
nationwide
survey of antibiotics

FROM 66 HOSPITALS...

FIVE LEADING ANTIBIOTICS COMPARED IN VITRO AGAINST CLINICAL ISOLATES FROM EAR, NOSE, THROAT AND RESPIRATORY TRACT[1]



Results from overt clinical infections isolated from ear, nose, throat and respiratory tract. Percentage of cultures reported susceptible in 3,643 clinical isolates of staphylococci (1610), streptococci (beta-hemolytic) (957), pneumococci (1010), and enterococci (66).

Indications: The bacterial spectrum for which TAO (triacetyloleandomycin) primarily is effective includes staphylococci, streptococci, pneumococci and gonococci. It is recommended for acute severe infections where adequate sensitivity testing has demonstrated susceptibility to this antibiotic. It has been shown to be particularly effective in acute, severe infections of the respiratory tract, bones and joints, genitourinary tract and in staphylococcal enterocolitis. It is not recommended for prophylaxis or in the management of infectious processes which may require more than 10 days continuous therapy. In view of the possible hepatotoxicity of this drug, when therapy beyond 10 days proves necessary, other less toxic agents, of course, should be used unless the organism is resistant to those agents, or in those cases where hypersensitivity precludes their use. If clinical judgment dictates continuation of therapy for longer periods, serial monitoring of liver profile is recommended, including BSP, transaminase (SGOT) and cephalin flocculation tests.

Precautions and side effects: Use of this drug may produce alterations in liver function tests and jaundice. Clinical experience available thus far indicates that these liver changes were reversible following discontinuation of the drug. A review of studies by several independent investigators and reports from practicing physicians indicate that liver function abnormalities may occur in a significant number of patients following two weeks or more of continuous therapy with triacetyloleandomycin at 1.0 gram per day in divided doses. Clinical symptomatology, including jaundice, has been observed infrequently in these individuals. The drug is not recommended for subjects who have shown abnormal liver function tests or hepatotoxic reactions to it. Based upon the use of this drug over a period exceeding 5 years, the incidence of jaundice considering all reports referable to this effect is 6.3 per million courses of therapy. When only those which definitely can be related to this drug are equated to usage, the incidence is 1.8 per million courses of treatment.

Although reactions of an allergic nature due to this drug are infrequent and seldom severe, those of the anaphylactoid type have occurred on rare occasions.

References: 1. Isenberg, Henry D., Ph.D.: Scientific Exhibit presented at the meeting of the American Medical Association, Atlantic City, New Jersey, June 16-20, 1963. 2. Shubin, H. et al: Antibiotic Med. and Clin. Ther. 6:156 (March) 1959.

The 1963 antibiotics survey provides a nationwide comparison of microbial susceptibility to 5 leading antibiotics. In all, susceptibility results of 9,331 cultures were obtained from 66 hospitals in 26 states. Results were analyzed and tabulated by electronic data processing equipment.

By this method, analysis of results in clinical isolates from ear, nose, throat and respiratory tract were determined. These in vitro findings indicate the overall superiority of TAO (triacetyloleandomycin) over other leading antibiotics in these common infections.

Clinical reports confirm its usefulness. As an example, Shubin[2] found that of 129 patients with upper or lower respiratory infections treated with TAO (triacetyloleandomycin), 120 had a good response. A "good" response generally showed "reduction in temperature and toxicity within 48 hours after initiation of therapy, with subsequent clinical and bacteriological cure of infection."

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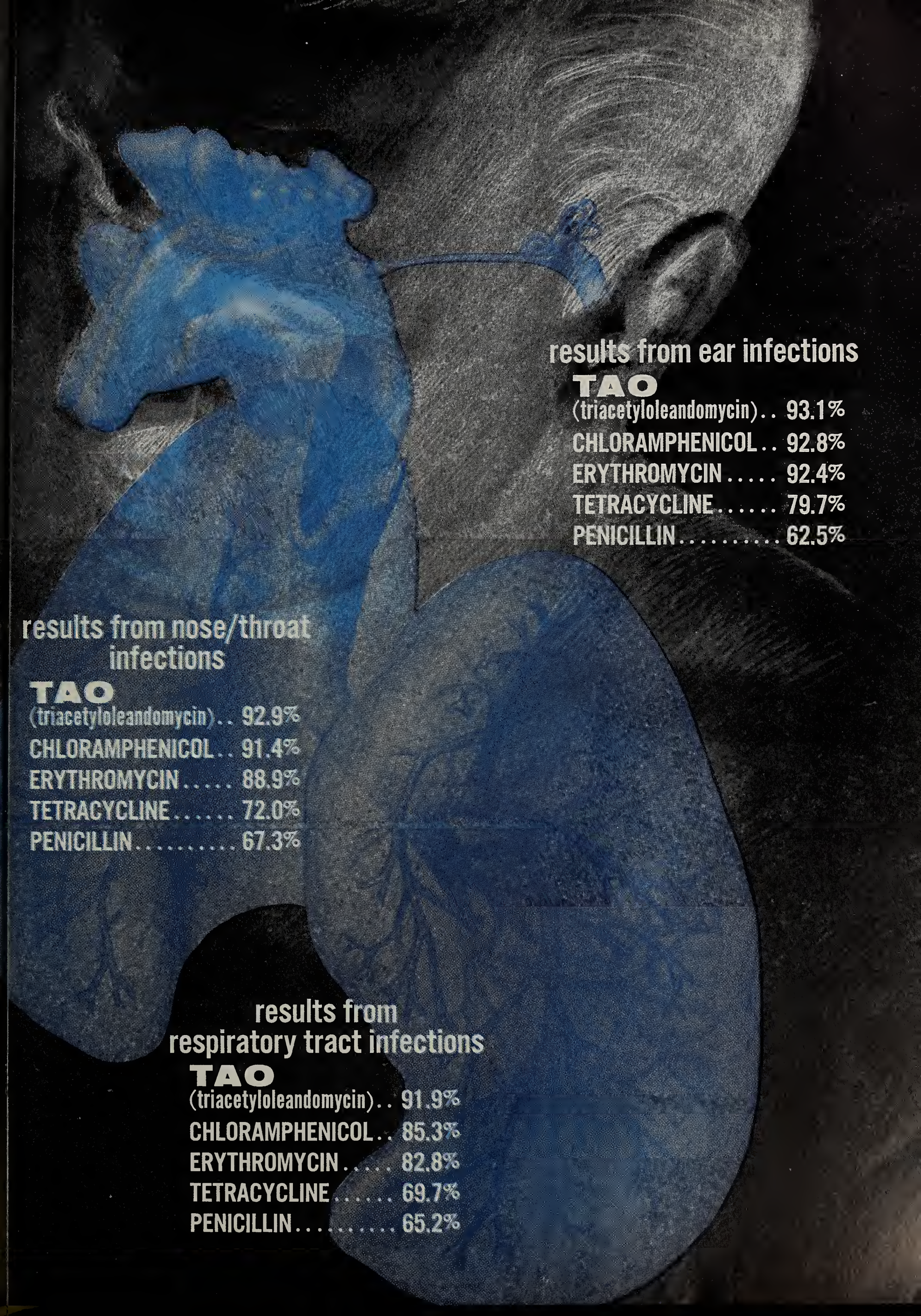

results from ear infections

TAO (triacetyloleandomycin)	93.1%
CHLORAMPHENICOL	92.8%
ERYTHROMYCIN	92.4%
TETRACYCLINE	79.7%
PENICILLIN	62.5%

results from nose/throat infections

TAO (triacetyloleandomycin)	92.9%
CHLORAMPHENICOL	91.4%
ERYTHROMYCIN	88.9%
TETRACYCLINE	72.0%
PENICILLIN	67.3%

results from respiratory tract infections

TAO (triacetyloleandomycin)	91.9%
CHLORAMPHENICOL	85.3%
ERYTHROMYCIN	82.8%
TETRACYCLINE	69.7%
PENICILLIN	65.2%

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Autopsy Study Proposed to Solve Important Medical Question

An autopsy study of executed criminals was proposed today to determine whether a predisposition to coronary disease or hardening of the arteries can be predicted.

Many investigators believe that a susceptibility to this ailment can be predicted by means of appropriate tests, Myron Prinzmetal, M.D., and Constance Prinzmetal, Los Angeles, said in the January 4 *Journal of the American Medical Association.*

These investigators generally base their predictions on the study of various types of blood fats, they said, but other factors, such as body build and heredity, are considered relevant.

However, they said, the validity of such tests has not been established and some studies proposed to determine their value would be extremely expensive or difficult to interpret.

The authors said an autopsy study of executed criminals might provide "an early and relatively inexpensive answer to this question—one of the most important in medicine."

They proposed that condemned criminals have complete histories taken, including data on familial history of vascular disease, diet, exercise and psychic factors. Thorough physical examinations should then be performed, they said. This would be followed by routine tests, such as electrocardiogram and blood pressure, they said. Photographs for anthropological typing also should be obtained, they said.

Blood samples would then be sent to scientists who have proposed specific tests for predicting the occurrence of coronary disease or hardening of the arteries, the authors said. A carefully selected central committee would be set up to statistically evaluate the autopsy findings and the test results, they said.

Capital punishment, although declining in some countries, exists in many nations in which competent cardiologists, internists, and chemists are available, the authors pointed out. There are about 60 countries and territories that have the death penalty, including 42 states of the United States and the District of Columbia, according to the Journal article.

New Virus Causes Meningitis, Temporary Paralysis

(Continued from Page 15)

school years, they said, the high incidence of Giles virus among young adults "suggests very strongly" that the virus was a newcomer to the state.

"With poliovirus infections continuing to decline, the question remains as to what extent the newer viruses will be involved in the changing paralytic pattern," the Journal editorial commented.

Report on Smallpox Drug Discussed in JAMA

A report that a drug has prevented smallpox in exposed persons raises hope that drugs can be used successfully to fight other virus-caused diseases, according to an editorial in the Jan. 11 *Journal of the American Medical Association.*

During an outbreak of smallpox in Madras, India, last year, 1,100 persons who had been in contact with smallpox infection were given oral doses of methisazone and only 3 mild cases of smallpox occurred in this group, the editorial said. Another group of 1,126 smallpox contacts were vaccinated but did not receive the drug, and 78 cases of smallpox developed, 12 of them fatal.

While vaccination before contact with smallpox prevents the disease, vaccination alone after contact often proves ineffective, the editorial pointed out. Vaccination plus injections of vaccine hyperimmune gamma globulin has been found to be effective in about 70 per cent of direct patient-contacts, it said.

However, the Madras experience indicates effectiveness in more than 96 percent of patient-contacts.

Methisazone is one of the drugs called antimetabolites which interfere with the multiplication of viruses in the body. Methisazone appears to be very effective only against the so-called large pox viruses and would be ineffective after the smallpox virus has begun to multiply, the editorial said.

The drug approach to smallpox prevention dates back at least to 1949. In 1953, University of Indiana researchers reported on the action of certain antimetabolites on the vaccinia virus, used in the vaccine to prevent smallpox, according to the editorial. In 1957, methisazone was adapted and studies in human beings were supervised by Dr. C. Henry Kempe, University of Colorado, Denver, and Dr. D. J. Bauer of the Wellcome Laboratories of Tropical Medicine, London.

No serious toxicity resulting from methisazone has been noted, the editorial said.

"With the development and refinement of chemotherapeutic methods, especially with the use of this new drug, it is hoped that a great step may be taken toward complete eradication of smallpox in areas where epidemics still occur. It is to be hoped, further, that by these means we may eliminate all possibility of importing smallpox into this country or other countries where the disease has been virtually controlled."

The Madras results are "indeed significant" because they indicate that a drug can protect against a virus capable of producing a lethal disease, the editorial declared. It seems likely that chemotherapy may be used successfully in the fight against other viral diseases, it said.

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References: 1. Calloway, N. O.: Article to be published. 2. Raddin, J. B., and Dowell, L. B.: Amer. J. Gastroent., *37*:24-40 (January) 1962.

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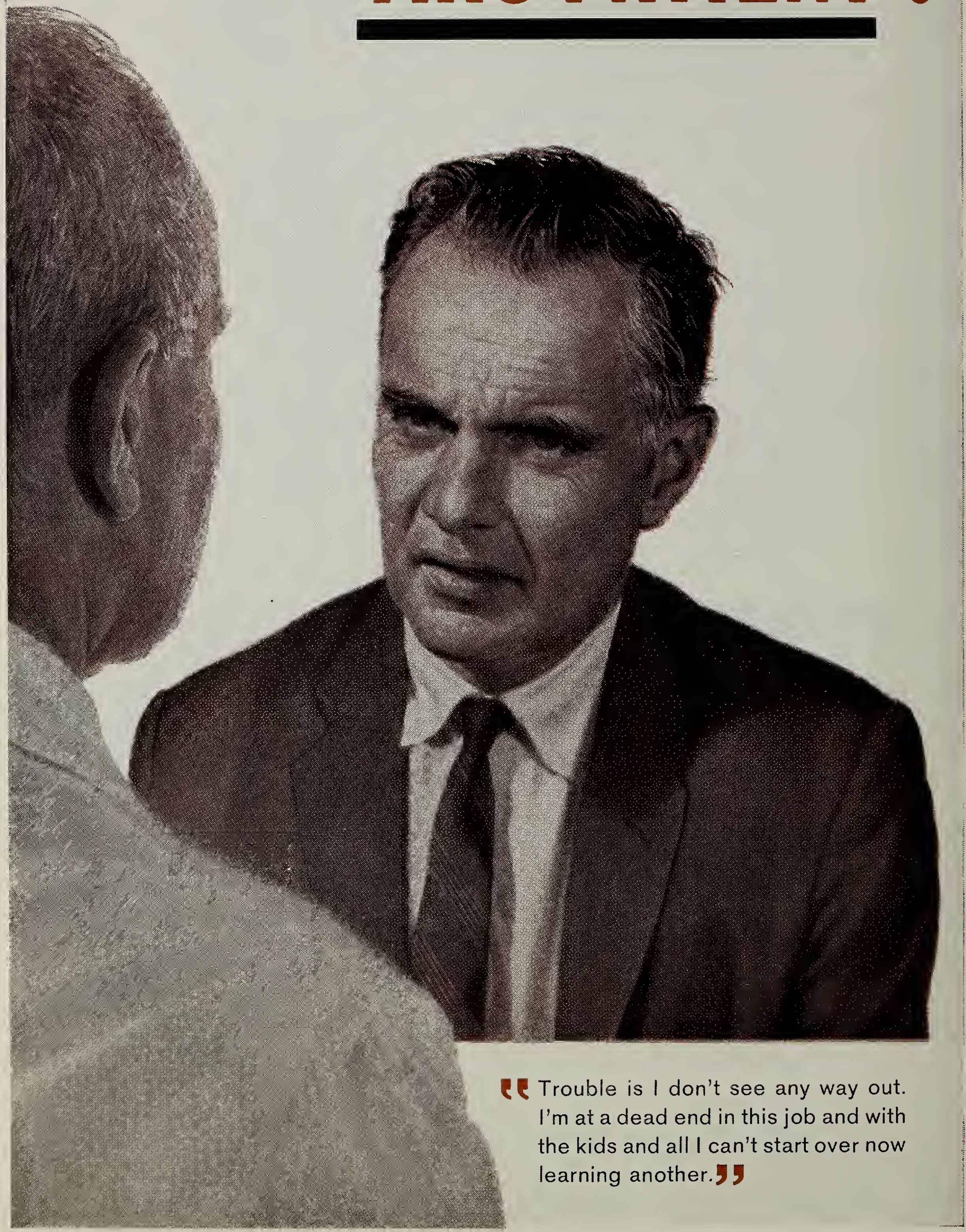

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Lung Function Differs Between Smokers and Nonsmokers

A study of 163 senior Air Force officers revealed significant differences in lung function between smokers and nonsmokers, according to a report in a December 7 *Journal of the American Medical Association.*

In eight of nine measurements of lung function, the smokers displayed abnormal values significantly more frequently than did the nonsmokers, Lt. Col. Nestor M. Hensler, USAF (MC), now in Wiesbaden, Germany, and 1st Lt. David J. Giron, USAF (MSC), Scott Air Force Base, Ill., reported.

The subjects included 113 smokers and 50 nonsmokers, aged 38 to 57, and excluded pipe, cigar, and ex-cigarette smokers, the researchers said. A comparison of various physical factors showed the two groups to be otherwise relatively homogenous, they said. Each has lived his entire adult life in a similar environment, that of the US Air Force, they said. All were free of significant heart or lung disease, they said.

"The only detectable background differences is that one group smoked and the other did not," the researchers said. "The inescapable conclusion is that this fact accounts for the differences in lung function between these two groups."

With the exception of total lung capacity, they said, there were significant differences in all other functions measured.

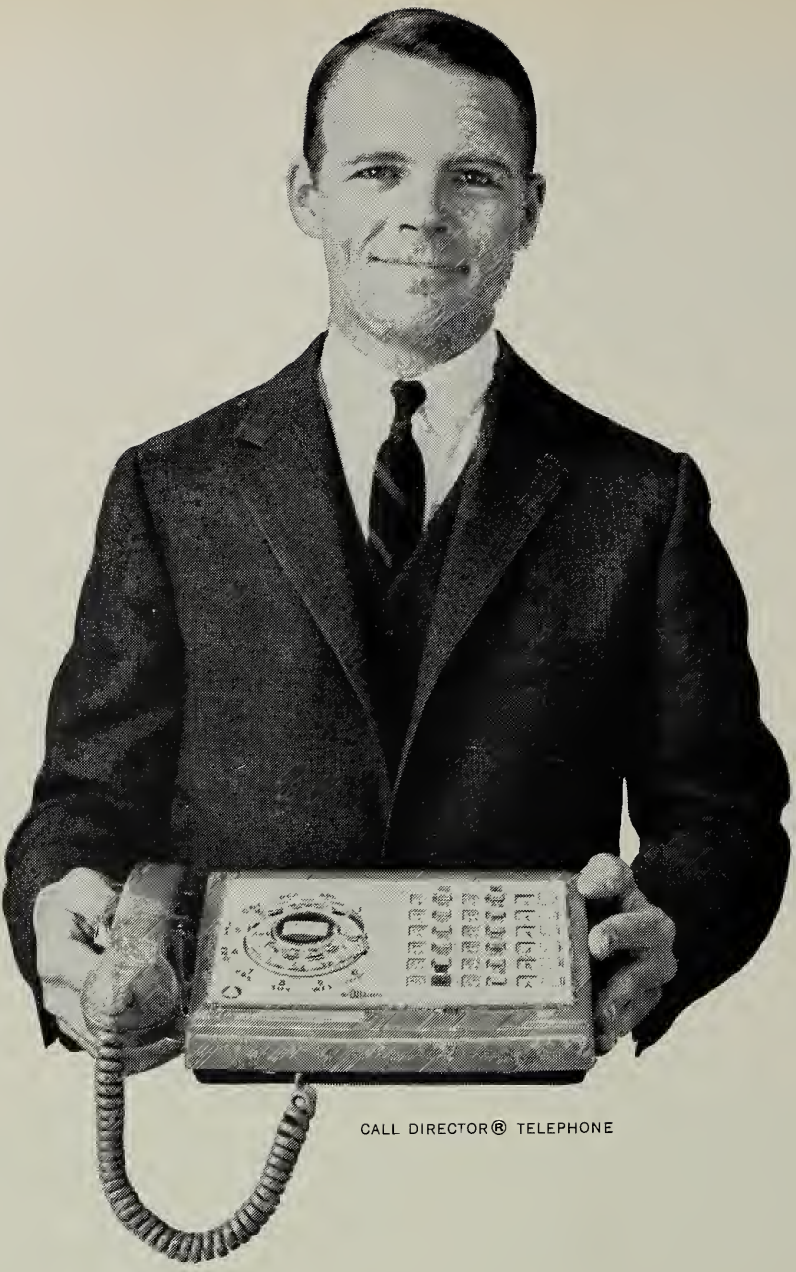
"It is evidence, therefore, that smoking can result in airway obstruction and air trapping or hyperinflation," the authors concluded. "These physiological changes in otherwise healthy cigarette smokers differ only in degree from those seen in the patients with emphysema."

No consistent or significant difference was noted between smokers and nonsmokers with respect to asthma, wheezing, or pneumonia, they pointed out. The infrequent history of these symptoms and the equality of distribution of this history between smokers and nonsmokers indicates that the differences otherwise demonstrated cannot be attributed to bronchial asthma, they said.

"The little-understood disease entities of chronic bronchitis and emphysema are responsible for more man days of disability and probably also, directly or indirectly, for more deaths than is cancer of the lung," the researchers commented.

"In spite of this, the possible role of irritation from tobacco smoke as an etiological factor in chronic bronchitis and obstructive emphysema has received relatively scant attention in the professional literature and infinitely less publicity directed to the

(Continued on Page 38)



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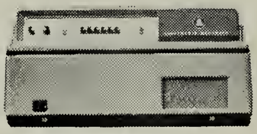

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Volume 100 FEBRUARY 1964 Number 2

Scintillation Scanning of Brain Tumors

PAUL M. MEADOWS, *M.D.*, Los Angeles

• Brain scanning by means of externally placed moving scintillation detectors has proven to be an easy accurate method for demonstrating size, shape and position of many types of brain tumors. In a series of 53, there were few false negatives and few false positives. The procedure is easy on the patient, does not require anesthesia and can be done on outpatients. It is recommended as a screening procedure for all brain tumor suspects.

It HAS BEEN recognized for over 20 years[2] that the difference in degree of concentration of some radioactive isotopes in brain tumors when compared with the normal brain tissue is sufficient to permit delineation of tumor tissue by isotopic counting procedures.

Early efforts were directed toward the operative mapping of the extent of a tumor by probing the brain with a small geiger tube for beta-emitting radioactive phosphorus.[4] Later, radioactive I^{131}-tagged fluorescein[3] was used to detect concentrations of radioactivity with detectors positioned externally on the skull. By making counts over many comparable areas of each side of the skull and comparing the counting rates of matched points, differential concentrations of radioactivity could be detected. These methods required rather large doses of radioactive isotopes and scattered radiation made accurate detection difficult. Then Brownell,[1] at Boston, utilized positron-emitting isotopes obtained from a nearby cyclotron and detected them with moving external coincidence counters. The expense of the scanning unit and the limited availability of short-lived cyclotron isotopes restricted this approach to a few institutions.

Beginning in the early 1950's, commercial scanners became available that utilized larger, more sensitive scintillation crystals for detecting radiation and coupled these with heavier, thicker collimators and with pulse height spectrometry which permitted discarding the scattered radiation and made the detection much easier. These technical improvements permitted mechanical scanning of the skull with sufficient accuracy to demonstrate large tumors. Photoscanning devices were added later, permitting further accentuation of small differences in concentration of radioactivity. This is the current status and the method makes a reasonably fine detection of difference in concentration between a small target and a non-target area. Future scanning will undoubtedly be stationary with instantaneous visualization of the entire area of isotopic concentration.

MATERIALS

The two radioactive isotopes currently used for scintillation scanning of brain tumors are radioactive mercury (either 203 or 197) and radioactive iodinated human serum albumin. Mercury has the advantages of a longer half life, permitting greater

---

From the Section of Radiation Therapy and Nuclear Medicine, Hospital of the Good Samaritan, Los Angeles.

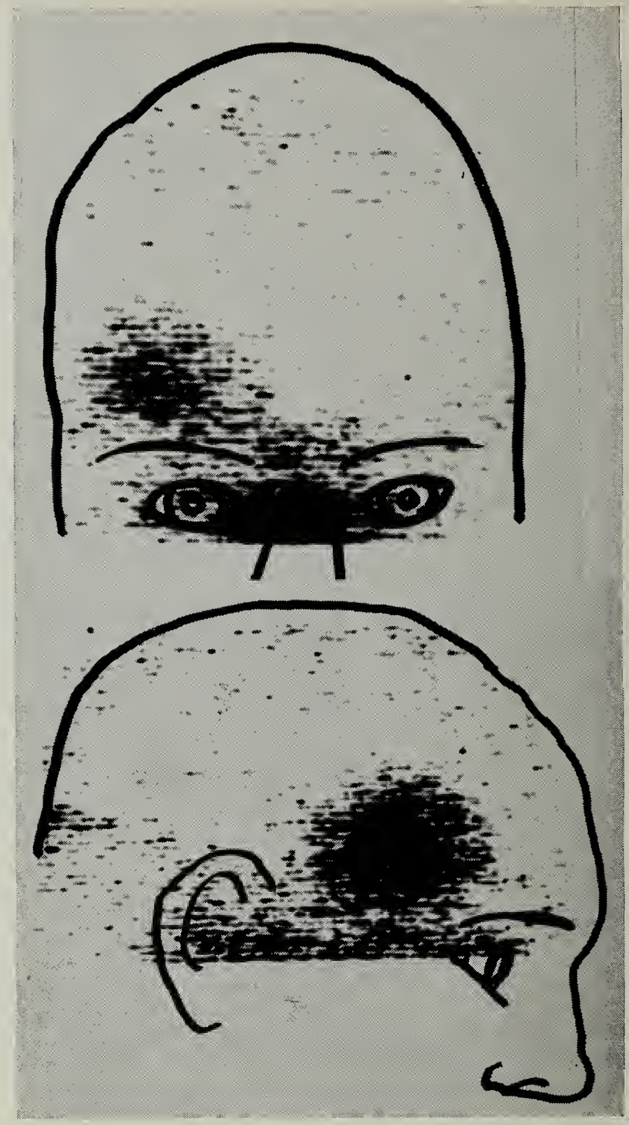
Presented before the Section on Radiology at the 92nd Annual Session of the California Medical Association, Los Angeles, March 24-27, 1963.

availability, besides good concentration in the tumor tissue and rapidity of concentration. After six hours, the activity of mercury in the blood vessels of the brain has almost disappeared, leaving only tumor tissue concentration. This permits one-day scanning procedures. They are carried out one to two hours after injection if there is need for a reading of the activity of the mercury in the blood vessels; if not, the scan is made six hours after injection. The disadvantages of mercury are that it sometimes deteriorates on the shelf and fails to concentrate accurately in the tumor, that it is trapped by the kidneys and retained for long periods, and that its rapid disappearance from the bloodstream occasionally results in the inability to visualize normal structures, thus making comparison of tumor tissue concentration difficult. Iodinated human serum albumin has a shorter half life, does have some allergenic propensity, has to be refrigerated and requires a two-day procedure; but it is more consistent in providing a normal vascular pattern against which abnormalities become more easily detectable. Physiologic concentration occurs with both isotopes unless prevented by the previous administration of blocking agents. The kidney concentration of radioactive mercury can be reduced by previous administration of non-radioactive meralluride (Mercuhydrin®) or chlormerodrin (Neohydrin®). The thyroidal uptake of radioactive I^{131} can be minimized by the previous administration of small amounts of Lugol's solution.

The procedure can be done on outpatients, does not require anesthesia, and is not particularly uncomfortable to the patient other than the discomfort of holding still while the scan is being done. The probe does not touch the patient, and there is no pain, pressure or other discomfort during the procedure.

TECHNIQUES

Procedure: An intravenous injection of molar lactate is started to be sure that the test material will be introduced into the bloodstream. When the intravenous flow is satisfactory, the test dose material is injected into the tubing. We use between five and eight microcuries for each kilogram of body weight of radioactive mercury-203 or radioactive serum albumin-131. If mercury is used, the patient is scanned two hours and six hours after injection. If iodinated albumin is used, scanning is done between 20 and 26 hours after the injection. The first scan is done with the suspected side of involvement facing up. Care is taken to be sure that the canthal line is perpendicular to the floor and that the sagittal plane is horizontal. Otherwise, the vascular concentrations at the base of the brain will be superimposed and interfere with the detection of low lying lesions. The patient's head is supported with sand bags so as to be held reasonably rigid in position and the patient is told not to move. The scan is started at the top of the skull with the surface of the focusing collimator as close to the scalp as possible without touching the skin. The scan is continued until it has passed the orbital meatal line by approximately one inch.



Right sphenoid ridge meningioma shown by scan superimposed on skull outline.

Technical factors are as follows: (1) Dot factor: 1 in 2 or 1 in 4; (2) Speed: 24; (3) Spacing: 2.5 mm; (4) Pulse height spectrometry with a window set from 300 to 450 KEV; (5) A 3 K scale; (6) A background erase of 24 per cent; (7) A 19-hole, 2½-inch focusing collimator; (8) Density: 25; (9) Range differential: 15; (10) A 2 mm square light collimator. To minimize the scanning time, the axis of the scan is kept perpendicular to the orbito-meatal line. At the conclusion of the scan, point by point localizations of the canthi, nasion, orbital ridge, tip of the nose, external auditory meatus, and surface contours of the skull are done and drawn on the printed scan. If there is an obvious tumor localization on the printed scan, the probe is positioned over the peripheral portions of the tumor and indelible pencil marks are made on the skin of the patient to outline the limits of the tumor. After the photoscan is developed, the photoscan is superimposed on the print scan and the reference points are transferred to the photoscan. The photoscan is then compared with x-ray films of the skull for additional help in localization of the tumor. The photoscan is then placed on a view box and copied with a Polaroid camera. By adjusting the lens opening and exposure time, varying degrees of contrast enhancement can be obtained. The patient is then turned into either a face up or face down position, depending on whether the tumor shown on the lateral scan was more anterior or posterior. Care is again taken to be sure that the orbito-meatal line is vertical. Similar procedures are followed until both lateral and face up or face down Polaroid prints are available. These are then mounted on the patient's chart for the convenience of the referring physician. For lesions that are difficult to visualize, ink arrows are used to point out the area of suspected tumor.

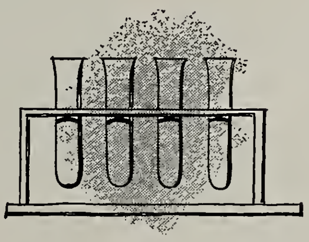
RESULTS

Of 53 brain scans, 26 were positive for concentrations of radioactivity and 27 were negative. There were two false positives, one of which was due to an infratentorial cyst and the other due to a fresh hemorrhage. In each case, the isotopic concentration coincided with the pathologic condition present, but neither was due to tumor. There were two known cases of tumor in which the scans were negative. One of these was due to a low grade fibrillary astrocytoma and the other due to hypothalamic tumor (not biopsied) subsequent to radiation therapy. Among the cases in which findings were positive, there were five gliomas, four meningiomas, four astrocytomas, three pituitary tumors, and eight cases of metastatic carcinoma. The primary sites of carcinoma in which there was demonstration of cerebral metastasis included lung, thyroid, breast and testicle. When the lesions were clearly visible, the size, shape and position were more readily appreciated than on any other diagnostic procedure. If some allowance was made for minor magnification of the size of the tumor on the scan dependent upon its position within the substance of the brain, the size of the tumor as shown by the scan corresponded very closely to the actual size of the tumor as removed surgically.

1212 Shatto Street, Los Angeles, California 90017.

REFERENCES

1. Brownell, Gordon L. and Sweet, William H.: Localization of brain tumors with positron emitters, Nucleonics, 11: 40-45, 1953.
2. Kenney, John M., Marinelli, M. A., and Woodard, Helen O.: Tracer studies with radioactive phosphorus in malignant neoplastic disease, Radiology, Vol. 37, No. 6, 683-687, Dec. 1941.
3. Moore, George E.: Use of radioactive disodo fluorescein in the diagnosis and localization of brain tumors, Science, 107:569, 1948.
4. Selverstone, Bertram, Sweet, William H., and Robinson, Charles V.: The clinical use of radioactive phosphorus in the surgery of brain tumors, Annals of Surgery, Vol. 130, No. 4, 643-651, Oct. 1949.



Tuberculosis and Rehabilitation

Dynamic Physical Restoration of Patients With Active Disease

CARRIE E. CHAPMAN,* *M.D.*, Los Angeles and
A. GERSON HOLLANDER,† *M.D.*, Oakland

• In a study carried out over a period of seven years, 454 patients with active tuberculosis were placed on a program of intensive physical exercise, combined with chemotherapy and antibiotics.

In the initial group of 155 patients studied from 1956-1960, the intensive rehabilitation program was not instituted until the last two months of the patient's stay in hospital, whereas in a late phase of the study 1960-1963 the dynamic physical restoration program was instituted early for 299 patients and was carried on simultaneously with chemotherapy and antibiotics.

The beneficial results of these programs appear to show that the concept of minimum exercise and prolonged bed rest in the hospital and a prolonged convalescent period after discharge, is no longer justified.

IN MEDICINE the word *rehabilitation* implies recovery of a patient from a physical illness and his return to a condition permitting resumption of his former status of employment or occupation. However, before the era of chemotherapy, because of the serious complications in active tuberculosis, physicians were forced to modify this concept and, with few exceptions, guided the patient into less strenuous work with limited hours and under sheltered conditions. The majority of patients were forced into jobs which were economically inferior or emotionally unsatisfactory. Much impressed by the dramatic changes in the treatment of active tuberculosis brought about by chemotherapy with antibiotics, the authors in 1956[4] embarked on a formalized system of dynamic active exercises during the last two months of hospitalization, combined with chemotherapy and antibiotics, the goal being return of the patient to his former job immediately on discharge from the hospital. One hundred and fifty-five patients were treated in this program during the period 1956-1960. In the succeeding three years 299 additional patients with active tuberculosis were placed on a program of dynamic active exercises simultaneously with chemotherapy and antibiotics, and the results achieved form the basis of this report.

The criteria for admission to this program (1956-1960) were stability of lesions as observed roentgenographically, absence of cavitation (using laminography in the anteroposterior and lateral views) and sputum consistently negative for tubercle bacilli on microscopic examination. A patient who met these criteria was advanced to full ambulation status. He was required to make his own bed, police his bedside area and go to the main dining room for his meals. He was unrestricted as to his activities. If he was receiving streptomycin he was taught to inject it himself under supervision of a nurse. Bottles of para-aminosalicylic acid (PAS), isoniazid and pyridoxine were supplied, which he kept at his bedside. The patient was responsible for taking the drugs as prescribed. He was given a program of physical, occupational and pre-vocational therapy to follow.

Follow-up studies were obtained on the post-hospital experience of 118 of the original group of 155 patients. Eighty-eight of the 118 had returned to full activity work upon discharge from the hospital, 22 were unemployed, 10 had been retired before they entered the hospital for treatment of tuberculosis, and 12 were unable to work because of other limitations or a combination of disabilities—for example, psychiatric disorders and emphysema. Four of the patients died, one of cirrhosis of the liver (autopsy showed no evidence of active tuberculosis), one of heart disease, and two of unstated cause but both were emphysematous and chronic alcoholics. In none of these cases was tuberculosis given as the primary or as a contributing cause of death. Four of the group of 88 were put in hospital again for active tuberculosis, and did not return to work.

The need for rest in the treatment of active pulmonary tuberculosis was universally accepted until some years ago, when a questioning attitude developed concerning the role that rest played in the recovery of tuberculosis patients under adequate drug therapy. Hirsch[3] and co-workers, in a well

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*Associate Director, Ben R. Meyer Rehabilitation Center, Cedars of Lebanon Hospital, Los Angeles.

†Chief, Pulmonary Service, U.S. Veterans Hospital, Oakland, California.

controlled study, demonstrated that recovery from pulmonary tuberculosis can be achieved without bed rest in persons with a drug-susceptible organism. They suggested that rest for the asymptomatic patient had little if any effect on the rate or degree of recovery and that more harm than good might result from prolonged inactivity. The Tuberculosis Chemotherapy Center in Madras, India,[5] reported a one-year study of 163 patients taken at random between home and sanatorium care while under chemotherapy for active tuberculosis. Although it was difficult to evaluate activity at home as against activity in the sanatorium, the patients in the home series were physically much more active than those in the sanatorium. The proportion of the males on home care who had returned to part-time or full-time activity was 13 per cent by three months, 35 per cent at six months, 57 per cent at nine months and 80 per cent at 12 months. In contrast, only a small proportion of sanatorium patients were permitted to be out of bed for as much as four hours a day by three months (8 per cent) and only 19 per cent at 12 months. At the end of one year, 10 per cent of the females in the sanatorium were allowed up for four hours a day, whereas 91 per cent of the females on home care had returned to part-time or full-time activity. Despite this difference in activity, the results of treatment as judged by sputum "conversion," cavity closure, roentgenographic stability and clinical findings were not statistically different in the two groups.

Our original treatment and study (1956-1960) differed from the one conducted by Hirsch and that of the Madras group, in that our major interest was in increasing the muscle tone so that the patient could be returned to his former occupation regardless of the strenuousness of such work, and in seeing if the relapse rate in these patients would be greater.

Our later study (1960-1963) of dynamic physical restoration was conducted with a view of evaluating the effect of activity during the early treatment of tuberculosis in hospitalized patients, from the standpoint of employment, medical disabilities precluding employment, maximum self-efficiency for independent living, relapse, and fatality.

PLAN OF STUDY

The criterion for admission to our present program of dynamic physical restoration is a diagnosis of active tuberculosis. The patient is started on a chemotherapy regimen and, when afebrile (usually within two weeks), on referral by the physician to the physiatrist, a dynamic physical restoration program that is carried out simultaneously with treatment, is begun. An evaluation of the patient's complete history and physical examination is made by the physiatrist, in the Department of Physical Medicine, to determine the patient's individual physical status. He is then referred, by prescription, to the physical therapy and the occupational therapy sections, and later to the corrective therapy section. Any necessary precautions or physical limitations are noted on the prescription to the therapist.

CONTROLLED DYNAMIC EXERCISE PROGRAM

The physical therapy treatment is divided into a light exercise program and a heavy exercise program, with approximately 20 patients in each group, to allow for variation in light or heavy exercise programs for each group.

The following exercises are to be carried out in a standing position:

Light Exercise Program

1. Deep breathing, up to ten repetitions each.
    (a) With hands on upper chest.
    (b) With hands on sides of rib cage.
    (c) With hands on front, lower rib cage.
2. Hands behind neck, up to ten repetitions, bring elbows together, then extend them back as far as possible (breathing in rhythm).
3. Deep knee bending, up to seven repetitions.
4. With knees straight, bring right hand toward left foot, alternate, up to seven repetitions.
5. Flex hip and knee, with foot make two complete circles, alternate, up to ten repetitions.
6. Place hands on wall and do push-ups against wall, up to 15 repetitions.
7. Using wand, elbows straight, with hands in supinated position and holding each end of wand, move arms straight out to side, bringing arm over head. Up to ten repetitions toward the left, up to ten repetitions toward the right.
8. Using wand, hands in supinated position, bring wand up and over the head, up to ten repetitions.

Heavy Exercise Program

Carry out items 1, 2, 3, 4 and 5 of light exercise program, up to ten repetitions for each.

Then, lying on a mat:

6. Holding weights in hands and with arms slightly off mat, roll up to sitting position, reaching forehead toward feet, then roll back to rest position.
7. With knees flexed and 3-pound weights in each hand, bring straight arms over head as far as possible, then bring back to midline over body, abduct arms to each side, back to midline, return to rest position.
8. Lying on left side, with left knee slightly flexed, lift straight right leg upward, then forward, then

back to full extension, then back to midline position, and down to rest position.

9. Lying prone, one to five push-ups, with rest periods after each push-up.

10. Lying prone, with 3-pound weights in hands and with arms in 45 degree angle away from sides of body, lift arms, legs and head off mat, down and return to rest position.

11. Lying on right side, same as item 8.

Occupational Therapy

Occupational therapy is prescribed for tonic and kinetic purposes to improve or maintain muscle tone and to relieve emotional stress. The ward program consists of craft activities. Those most commonly used are:

1. Making leather wallets, belts, purses, etc.
2. Metal tooling—copper and aluminum.
3. Woodburning—trays, plaques, boxes.
4. Weaving on table looms—wool scarves and table mats.
5. Rake knitting—rugs, stoles, ski caps.
6. Art—oils, watercolors, pastels, drawing.
7. Ceramics, hand modeling.
8. Fly-tying.
9. Stenciling.

Patients work at things chosen of their own individual interest, with pace and time depending on their physical status. They are seen daily by the occupational therapist, who instructs, encourages and assists them with their projects. They usually work in a sitting position at tables in their rooms, often working together, socializing.

The Occupational Clinic hours are from 10:00 a.m. to noon and from 3:00 to 4:15 p.m. The purpose of kinetic therapy is pre-vocational development of power and tolerance in sitting and standing positions.

Patients are issued the necessary projects to accomplish the objective for progress in activity and conditioning. Among the activities available for upper and lower extremity development are working with plastics and woodworking. These require the patient to stand at a work bench and walk about the clinic to get the tools for sawing, filing and finishing. For development of power and endurance of the lower extremities, patient stands at a jig saw to cut out needed shapes of wood and plastics.

Other activities include using a hand-operated printing press, with the patient in a standing position, to develop standing tolerance and the dexterity required in setting type. Floor looms are used for sitting position exercises to develop the use of both upper and lower extremities. Large table looms are used in sitting position activities to develop the trunk and upper extremities.

The progress of patients is watched constantly, and when ready to go on to a heavier program of resistive conditioning exercises, they are referred to the Corrective Therapy Section.

Corrective Therapy

For corrective therapy, patients have a prescribed program of general reconditioning. They are instructed to limit their exercises to their own physical capacity and endurance. The weights they use in exercises may vary from 3 to 20 pounds.

Exercise Program:

1. Arms Chop—bilateral—3 to 15 pound weights.
    - (a) Elbows straight.
    - (b) Elbows flexed.
2. Arms Lift—bilateral—3 to 15 pound weights.
    - (a) Elbows straight.
    - (b) Elbows flexed.
3. Shoulder and Elbow — unilateral — 3 to 15 pound weights.
    - (a) Flexion and abduction—straight arm patterns.
    - (b) Flexion adduction—straight arm patterns.
    - (c) Horizontal abduction and adduction — straight arm patterns.
    - (d) Hyperextension adduction — straight arm patterns.
4. Elbow—unilateral—3 to 15 pound weights.
    - (a) Shoulder flexion—elbows in flexion and extension.
    - (b) Shoulder extension—elbows in flexion and extension.
    - (c) Horizontal abduction and adduction—elbows in flexion and extension.
    - (d) Hyperextension—adduction—elbows in flexion and extension.
5. Knee—5 to 20 pound weights.
    - (a) Flex peroneal.
    - (b) Flex posterior tibial.
    - (c) Extension, anterior tibial.
    - (d) Extension-dorsiflex.
6. Resistive exercises on bicycle—5 to 20 revolutions, three repetitions, with rest periods before each repetition.
7. DeLorme boot resistive exercises.

The ages of the patients studied in this group were similar to those of the original group, ranging from 21 to 76 years.

The extent of the disease was minimal in 41 patients, moderately advanced in 145, advanced in 98. Pleural effusion was present in six patients, and relapses occurred in nine of this group.

RESULTS

Two hundred and ninety-nine consecutively admitted patients with active tuberculosis were studied in this group from January 1960 to January 1963. All, when afebrile, were placed on a dynamic physical restoration program simultaneously with administration of chemotherapy and antibiotics, with a goal of returning them to full-time activity immediately on discharge from the hospital. The goal was achieved. All were rehabilitated and medically cleared to return to full-time employment or activity on discharge from the hospital if they wished to do so.

Reports were obtained from 267 patients after they left the hospital. Of this group, 153 had returned to full-time activity or employment immediately on discharge from the hospital, 67 were not working because they chose not to, 36 had been retired from work before they entered the hospital for treatment, and two were disabled because of other medical complications. Nine had a relapse.

Of this group of 299 rehabilitated patients, 19 were engaged in professional work, 30 in clerical work, 33 were skilled workers, 44 were semi-skilled workers, three were service workers, and 125 were unskilled laborers. The occupation of the remaining 45 patients was not known.

DISCUSSION

This study shows the importance of instituting a dynamic physical restoration program simultaneously with chemotherapy for maximum benefits. The rehabilitation program should be started the day the patient enters the hospital. He should be informed of the extent of his disease, assured that the outlook for his recovery is favorable, and that, without complications, he should be able to return to his former occupation immediately on discharge from the hospital. This preparation has proved a vital factor, psychologically, in the acceptance of hospitalization and in entering enthusiastically into the rehabilitation program. All too often, lack of confidence may be the only barrier to total rehabilitation of the employable patient. Patients with minimal or moderately advanced disease and a very large number of those with far advanced disease can be adequately treated and totally rehabilitated in a period of six to ten months. The number of relapses will be extremely small if cavities are no longer present, sputum is non-infectious and chemotherapy is continued. If, after two months, there is no roentgenographic or bacteriologic evidence of relapse, the patient should be discharged to immediate full employment, preferably to his former job.

With this favorable outlook for the patient's total rehabilitation and ability to return to his former job within a fairly definite time, the social service worker has been able in a great majority of cases to make such arrangements with employers.

The socio-economic and emotional impact on the patient—often the sole breadwinner in the family—is definitely lessened by his shortened stay in the hospital. The social service worker is of invaluable help in the procurement of financial assistance when this is needed by the patient's family.

Ben R. Meyer Rehabilitation Center, Cedars of Lebanon Hospital, 4833 Fountain Avenue, Los Angeles, California 90029 (Chapman).

REFERENCES

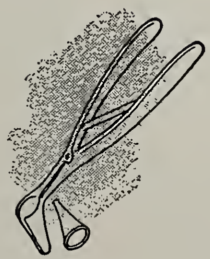
1. Auerbach, O., Katz, M. L., and Small, M. J.: The effect of streptomycin therapy on the bronchocavitary junction and its relation to cavity healing. Amer. Rev. Tuberc., 1953, 67, 173.

2. Canetti, G.: The Tubercle Bacillus in the Pulmonary Lesion of Man. Springer Publishing Co., Inc., New York, 1955.

3. Hirsch, J. G., Schaedler, R. W., Pierce, C. H. and Smith, I. MacL.: A study comparing the effects of bed rest and physical activity on recovery from pulmonary tuberculosis. Amer. Rev. Tuberc., 1957, 75, 359.

4. Hollander, A. Gerson and Chapman, Carrie E.: Present-day concept of rehabilitation in tuberculosis, Amer. Rev. of Resp. Dis., 1960, vol. 82, 91.

5. Tuberculosis Chemotherapy Centre, Madras: A concurrent comparison of home and sanatorium treatment of pulmonary tuberculosis in South India. Bull. WHO, 1959, 21, 51.



Polycythemia Vera

Peripheral Vascular Manifestations

WESLEY S. MOORE, *M.D.*, F. WILLIAM BLAISDELL, *M.D.*, and ALBERT D. HALL, *M.D.*, San Francisco

WITH THE ADVANCE of vascular reconstructive techniques, interest in the arterial occlusive diseases has been renewed. Arteriosclerosis is by far the most common cause of vascular obstruction, although tissue overgrowth, inflammation, embolism or thrombosis also may result in vascular insufficiency. This report is concerned with one of the rarer causes of peripheral vascular insufficiency—polycythemia vera. The two cases herein described were of interest because the initial manifestations were gangrenous changes in the lower extremities. Earlier recognition of polycythemia might have prevented the thrombotic complications which in one case led to the loss of a limb.

• The presenting manifestations of polycythemia vera are often complications involving the vascular system. These include myocardial infarction, cerebro-vascular accidents and ischemic changes in the extremities.

The concept of increased atherogenesis in cases of polycythemia vera has been questioned. A possible mechanism by which small, otherwise subclinical atheromatous plaques produce ischemic symptoms in patients with polycythemia vera is discussed. The blood in polycythemic patients has been shown to have an increased viscosity resulting in a prolonged circulation time. If a small atheromatous plaque is present in association with increased blood viscosity, this combination may well produce ischemic symptoms. This explains why treatment of polycythemia vera, with restoration of blood to normal viscosity, often reverses the patient's ischemic symptoms.

Two cases of polycythemia vera here reported, in which the presenting manifestations were gangrenous extremities, emphasize the need for prompt diagnosis and treatment of polycythemia vera. In the first case, early recognition and treatment of polycythemia vera successfully reversed the ischemic changes in the extremities, while failure of early recognition and treatment in the second case resulted in two major amputations.

CASE 1. A 70-year-old white man was admitted to Veterans Administration Hospital, San Francisco, in November, 1956, with severe rest pain and blue discoloration in the right great toe. A portion of the tip of the toe near the nail had sloughed off from progressive gangrene. On physical examination, the femoral, popliteal, dorsalis pedis and posterior tibial pulses were full and equal. Hemoglobin content was 20.5 gm per 100 ml of blood, the packed cell volume was 64 per cent. Erythrocytes numbered 7,500,000 per cu mm and the platelet count was 336,000 per cu mm. Bone marrow aspiration revealed both erythroid and myeloid hyperplasia consistent with polycythemia vera. Multiple phlebotomy and treatment with P_{32} were carried out and the hemoglobin level was reduced to a normal range. The toes healed without further incident and the patient was asymptomatic at the time of discharge. He was treated for polycythemia at varying intervals with no further peripheral vascular symptoms until April, 1961, when he was readmitted with a three-month history of aching pain and bluish discoloration of the left second toe. Shortly thereafter he noted pain and bluish discoloration of the left great toe.

On physical examination, the left great toe was purple and cold with poor capillary filling. The remainder of the foot was warm and healthy in appearance. The right foot was cooler than the left. In the interval since the previous admission, the popliteal, dorsalis pedis, posterior tibial pulses on the right side as well as the dorsalis pedis pulse on the left had disappeared. Paradoxically, the patient kept his leg elevated rather than dependent in order to relieve the pain.

Erythrocytes numbered 8,810,000 per cu mm, packed cell volume was 68 per cent, hemoglobin content was 19.4 gm per 100 ml and the platelet count 443,000 per cu mm. A blood volume determination was 110 ml per kilogram of body weight (normal value 65.5 ml per kilogram); the red cell mass was 73.2 ml per kilogram (normal value 30.7 ml per kilogram). On arteriography the aorta, iliac and common femoral vessels appeared normal. The right superficial femoral artery was occluded. The left superficial femoral and both popliteal arteries and their major branches were patent but had ragged, irregular contours compatible with diffuse arteriosclerotic involvement. The patient was treated with

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From Surgical Service, Veterans Administration Hospital, San Francisco, and University of California School of Medicine, San Francisco.

Submitted July 29, 1963.

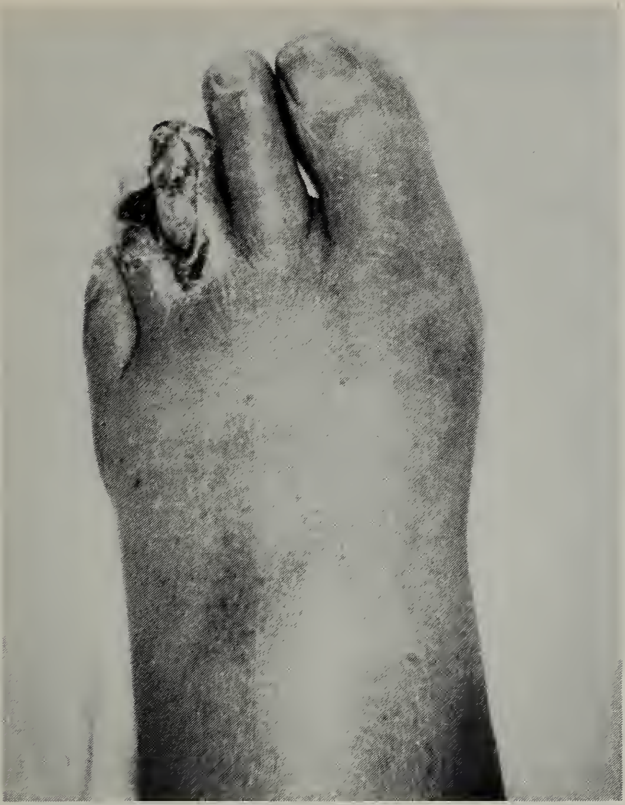


Figure 1.—(Case 2). Gangrenous changes in the third and fourth toes of left foot.

phlebotomy, P_{32} and bilateral lumbar sympathectomy. He gradually became asymptomatic and was discharged, hemoglobin content at that time being 12 gm per 100 ml, and packed cell volume 43 per cent.

CASE 2. A 71-year-old white man was admitted to Veterans Administration Hospital, San Francisco, in November 1961 with chief complaint of gangrenous changes of the left third toe. Five months earlier he had been admitted to another hospital because of reactivation of a peptic ulcer, with pain and bleeding. This improved on medical treatment. During that period in hospital he noted pain and coldness in the toes of both feet, which progressed to gangrene of the three toes on the right despite lumbar sympathectomy. Right transmetatarsal amputation was unsuccessful and this was followed by a below-the-knee amputation. Because of similar but milder conditions in the left foot, left lumbar sympathectomy was also carried out. The patient was then discharged and did well until three weeks before the present admission, when he developed pain in the left third toe.

On examination a draining sinus in the right below-the-knee amputation stump was noted. The left third and fourth toes were gangrenous and pronounced rubor was observed in the distal foot when it was dependent (Figure 1). Both femoral and popliteal pulses were full. The left posterior tibial pulse was present; the dorsalis pedis pulse absent.

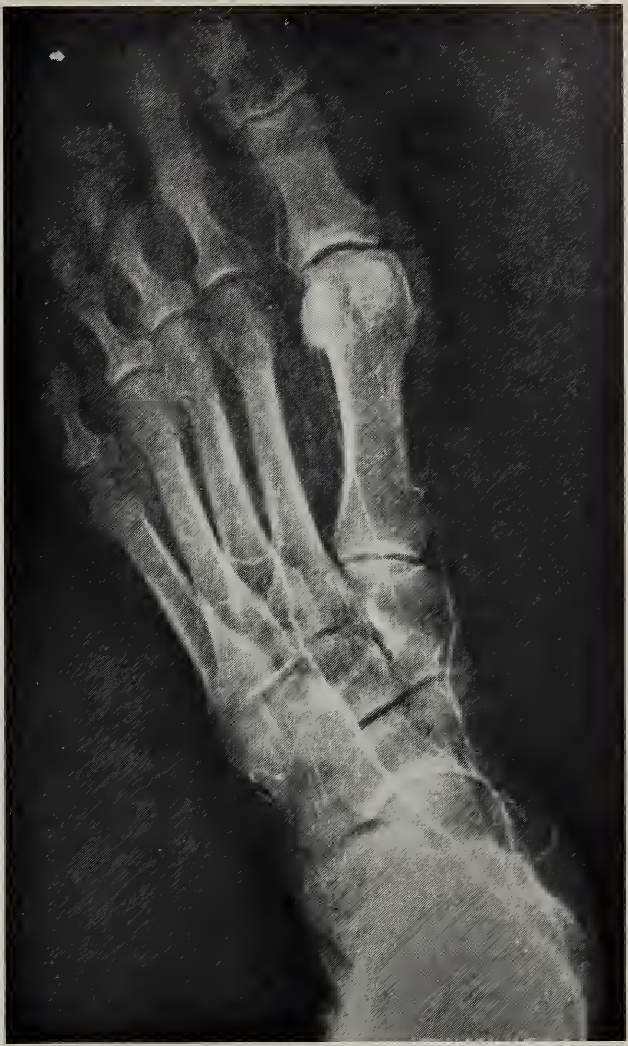


Figure 2.—(Case 2). Arteriogram demonstrating open posterior tibial artery but absence of the dorsalis pedis artery and plantar arch.

Hemoglobin content was 15.3 gm per 100 ml of blood. Results of blood sugar studies were within normal limits. Serum examinations for macroglobulins and cryoglobulins were negative. A platelet count was 826,000 per cu mm and when repeated was 1,360,000. Wintrobe indices revealed microcytic hypochromic anemia. Bone marrow studies showed hyperplasia of the erythroid and megakaryocytic elements. Iron-staining of bone marrow revealed iron deficiency anemia. A diagnosis of polycythemia vera, masked by iron deficiency anemia, was made. Aortography and left femoral arteriography revealed no significant vascular occlusive disease in these larger vessels. Peripheral arteriograms demonstrated obliteration of the plantar arch and absence of the dorsalis pedis artery shadows (Figure 2). Transmetatarsal amputation was done and the stump healed without incident. Pathologic sections showed intimal proliferation and thrombosis of distal small vessels (Figure 3).

Iron therapy was given and the number of ery-

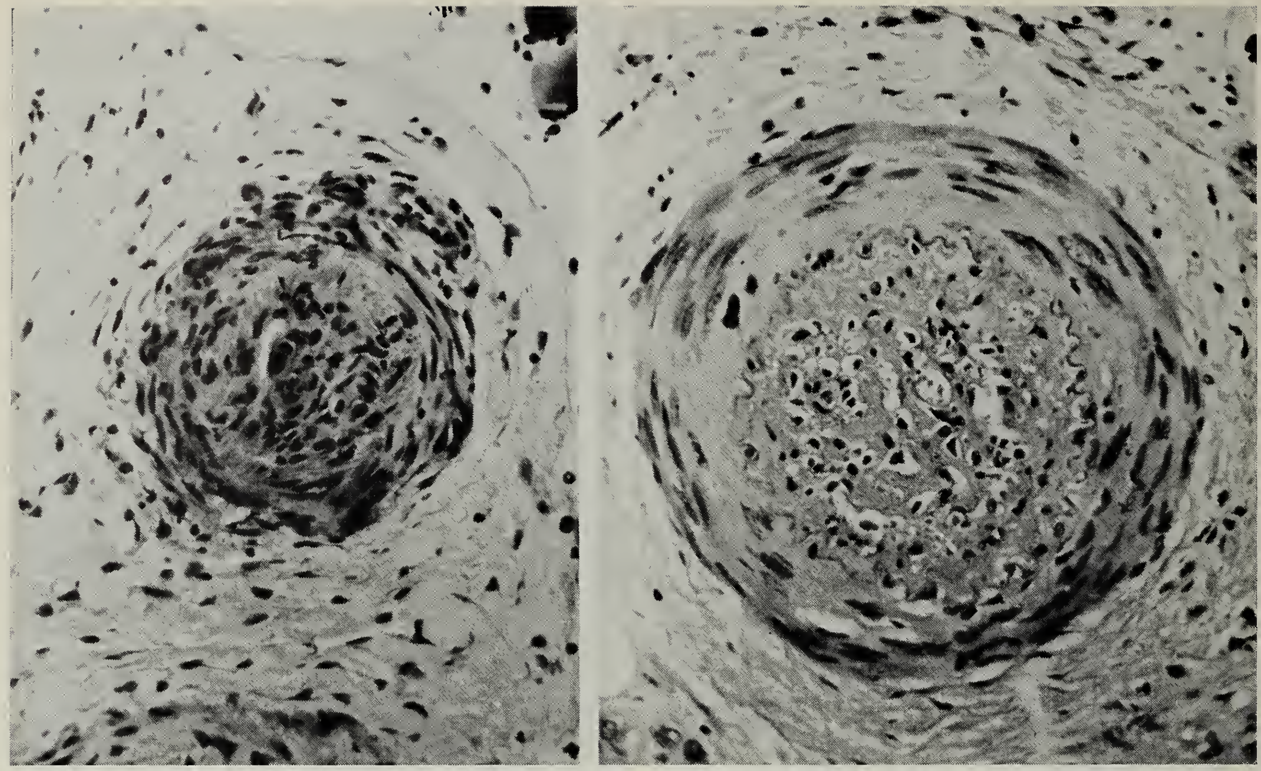


Figure 3.—(Case 2). Hematoxylin and eosin stained sections of amputation specimen from left foot. Arterioles with organized thrombi within the lumina (× 130).

throcytes and the hemoglobin content increased promptly. Treatment with P_{32} thereupon was begun and at the time of discharge the hematologic findings were within normal limits. Since that time the patient has been carefully observed, and the typical course of polycythemia has been noted and appropriate therapy reapplied at varying intervals. There were no further manifestations of peripheral vascular disease.

HISTORICAL FEATURES

Polycythemia vera is a disease of unknown cause, characterized by a persistent elevation in the total number of red cells in circulation, splenomegaly, leukocytosis and thrombocytosis. It was first described by Vaquez in 1892.[10] Osler, in 1903, elaborated upon the phenomenon in the English literature and first recognized the frequency of associated vascular complications.[8] Brown and Giffin in 1926 were the first to recognize that most of the symptoms in polycythemia vera are on a circulatory basis.[2] In a later article they also noted that the most common complications in polycythemia vera were those involving the vascular system.[3]

The vascular manifestations may roughly be divided into three major categories: Thrombosis, hemorrhage and pain from capillary distention. Oppenheimer in 1929 presented seven cases involving vascular disturbances in association with polycythemia vera; these included one case of coronary thrombosis, one case of hepatic vein thrombosis, one case of occlusive disease involving an extremity, two cases of pain secondary to capillary distention and two of cerebral thrombosis.[7]

Brown and Giffin, reviewing 100 cases of polycythemia vera in the Mayo Clinic series from 1912-1929, reported on 27 cases involving vascular complaints in the extremities.[3] These were divided into three categories: the first consisted of 20 cases with associated arteriosclerosis obliterans; this included six cases of claudication, one case of acute thrombotic occlusion leading to gangrene, and 13 cases of acroparesthesias. The second group consisted of one case presenting the picture of thromboangiitis obliterans, and the third, a group with vasomotor disturbances, including three cases of erythromelalgia and three cases of Raynaud's phenomenon. These investigators felt that there was a definite increased incidence of arteriosclerosis obliterans in a group with polycythemia vera as opposed to a similar cross-section of population in the same age and sex distribution. Norman and Allen reviewed 98 cases of polycythemia vera in the Mayo Clinic series from 1929 to 1936. They found that in 33 cases (or 34 per cent) there were vascular complications.[6] This is a much higher incidence than occurs in the general population, and the investigators felt that it represents a causal relationship rather than coincidence. Burris and Arrowsmith in 1953, reporting on the Tulane series, noted that 23 of a total of 68 patients (or 33.8 per cent) had vascular complications.[4] Bluefarb in 1955 stated that arteriosclerosis obliterans was more common in patients with polycythemia than in others in a comparable age group.[1]

The factors productive of vascular complications in polycythemia vera are not fully understood, but several mechanisms have been suggested. Brown and Giffin in 1930 pointed out that the rate of circulation as measured by the histamine time was 5 to 10 times slower in polycythemia vera than in normal subjects. They felt that sluggish circulation, high viscosity, increase in platelets and hypercalcemia predisposed to thrombosis and accelerated the rate of peripheral arteriosclerosis obliterans.[3]

Damashek demonstrated that the greater the hematocrit level, the more viscid the blood and the slower the velocity of blood flow.[5] Rosenthal considered it curious that both thrombosis and hemorrhage were concurrent complications in polycythemia vera. He pointed out that in spite of thrombocytosis, clot retraction may be slow, little serum may be formed and that perhaps this results from the increase in blood cell mass. He felt that these features not only explain the abnormal tendency to thrombosis, but that the blood vessel engorgement and poor clot retraction ability provide an explanation for frequent hemorrhage.[10] Wilson, Heath and Larsen studied the coagulation abnormalities in polycythemia vera.[11] They also pointed out the paradox of thrombosis and hemorrhage as concomitant complications in polycythemia vera. They concurred with the postulate that increased red cell mass, elevated hematocrit, thrombocytosis and high viscosity were the responsible factors in thrombotic phenomena. They did not believe that a decrease in prothrombin and fibrinogen levels produced the hemorrhagic complications. They studied 23 cases of polycythemia vera and found no difference in the levels of fibrinogen or degree of fibrinolysis as compared with normal persons. However, they noticed that the fibrin clot formed in patients with polycythemia vera did not satisfactorily hold red cells, thus producing a prominent fallout phenomenon. This suggested a defect in the fibrin itself as a factor in the hemorrhagic phenomenon.

DISCUSSION

The two cases of polycythemia vera described in this report were of surgical interest because the initial manifestations of the disease were gangrenous changes in the lower extremities. The first case presumably was associated with arteriosclerosis. The increased viscosity and sluggish flow probably compounded the arteriosclerotic obstruction. Following treatment of the polycythemia the skin lesions healed and symptoms disappeared, only to recur years later when the disease was again out of hand. In the second case the diagnosis was obscured by blood loss resulting from a duodenal ulcer which masked the hematologic findings typical of polycythemia. However, a decidedly elevated platelet count led to the diagnosis, which was later verified by marrow studies and subsequent clinical course. Whether the thrombotic lesions resulted from increased viscosity of the blood before the duodenal hemorrhage or from hypercoagulability associated with the high platelet count is not known. In this instance, there was no evidence of arteriosclerosis in the amputated specimen or on arteriography. However, thrombotic complications had previously necessitated the amputation of one leg and a transmetatarsal amputation on the opposite side. It is probable that if the polycythemia had been recognized and treated earlier, major amputation would not have been necessary. With adequate treatment, there has been no further progression of the vascular disease in the extremities.

As roentgenographic techniques have improved, more and more patients are being studied with arteriography. The compiled results of our studies show a large incidence of arteriosclerosis of major vessels which is not associated with symptomatic ischemic extremities. It is our feeling that there may not be a significant difference in atherogenesis between the group of patients with polycythemia vera and a cross-section of population of a similar age group.

It is known that there are significant hemodynamic alterations in polycythemia vera related to viscosity; these are productive of decidedly reduced perfusion rates. In the light of this knowledge, it seems most reasonable to postulate that arteriosclerotic lesions that remain asymptomatic in a patient with a normal blood viscosity and perfusion rate, might very well become significant and symptomatic in a patient with increased viscosity and an already diminished perfusion rate. A moderate extension of these minimal lesions would slow the circulation even more, with a tendency toward earlier thrombosis. Control of the underlying hematologic disease may be sufficient to reverse the symptomatic vascular manifestations in these patients.

Although the diagnosis of polycythemia is usually obvious in the routine blood studies made on patients admitted to hospital, Case 2 emphasized that associated disease, such as bleeding peptic ulcer, may mask the usual elevation of red blood cells. In outpatients, routine blood measurements may not be made until irreversible peripheral vascular disease has occurred. Thus it seems important to emphasize the peripheral thrombotic manifestations of this disease in order to effect earlier recognition and treatment.

Veterans Administration Hospital, 42nd Avenue and Clement Street, San Francisco 94121 (Blaisdell).

REFERENCES

1. Bluefarb, Samuel: Cutaneous manifestations of polycythemia vera, Bull. Northwestern U. Med. Sch., 29:8, 1955.

2. Brown, G. E., and Giffin, H. Z.: Studies of the vascular changes in cases of polycythemia vera, Am. J. M. Sc., Feb. 1926, pp. 157-68.

3. Brown, G. E., and Giffin, H. Z.: Peripheral arterial disease in polycythemia vera, Arch. Int. Med., 46:705-17, 1930.

4. Burris, M. B. and Arrowsmith, M. D.: Vascular complications of polycythemia vera, Surg. Cl. N. A., August 1953, pp. 1023-1028.

5. Damashek, W.: Physiopathology and course of polycythemia vera as related to therapy, J.A.M.A., 142:790, 1950.

6. Norman, I. L. and Allen, E. V.: The vascular complications of polycythemia vera, Amer. Heart J., 13:3, 257-73, March 1937.

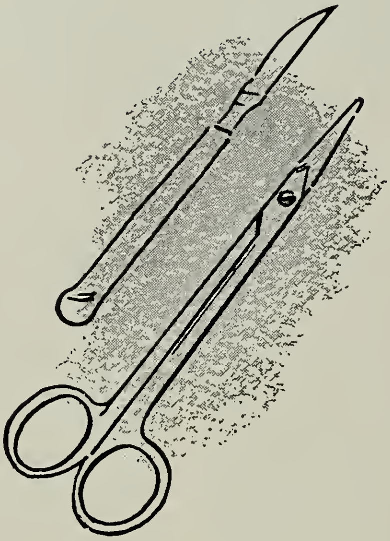
7. Oppenheimer, B. S.: Vascular occlusion in polycythemia vera, Transactions of the Assn. of Amer. Physicians, 44:338-44, 1929.

8. Osler, W.: Chronic cyanosis with polycythemia and enlarged spleen. A new clinical entity, Am. J. M. Sc., 126: 187, 1903.

9. Rosenthal, R. L.: Blood coagulation in leukemia and polycythemia—value of the heparin clotting time and clot retraction rate, J. Lab. and Cl. Med., 34:10, 1321-1335, October 1949.

10. Vaquez, M. H.: Concerning a special form of cyanosis with accompanying excessive and persistent hypoglobulia, Compt. rend. Soc. de biol., 44:384, 1892.

11. Wilson, S. J., Heath, H. E. and Larsen, W. E.: Polycythemia vera; study of coagulation abnormalities, both thrombotic and hemorrhagic, Kansas Med. Soc. J., 59:90, 1958.



Infantile Spasm

Response of "Salaam Seizures" to Hydrocortisone

DOUGLAS L. CROWTHER, *M.D.*, San Francisco

• Two groups of children with salaam seizures were studied—16 treated with routine anticonvulsants (control group) and 20 who had hydrocortisone added to their routine medication (Cortef-plus group). Results in the two groups were similar.

INFANTILE SPASMS, hypsarrhythmia, or "salaam seizures" were described in 1841 by West, who emphasized an associated arrest in intellectual development of the infant. Lennox and Davis[9] in 1950 correlated massive myoclonic spasms in infants with electroencephalograph tracings which were characterized by one to two high amplitude waves per second, with spiking of multifocal origin. Gibbs and Gibbs[3] introduced the now familiar term *hypsarrhythmia* to describe the chaotic electroencephalographic pattern seen at one time or another in approximately 80 per cent of patients with this syndrome. Treatment with the usual anticonvulsant drugs is usually of no avail. However, widespread interest has been aroused since the report of Sorel and Dusaucy-Bauloye[15] in 1958 on the beneficial and dramatic effects of steroids in this condition.

It has been recognized that infants with this syndrome can be divided into two main categories: (1) the symptomatic group — those in whom there is a history of previous insult to the nervous system which usually results in retardation in development before the onset of seizures; (2) the cryptogenic group — those in whom no history of insult is obtained and in whom development is entirely normal before the seizures occur. On this basis, lack of success with treatment is of less concern in the average member of the symptomatic group, especially where previous damage to the central nervous system has left the child permanently retarded.

Our report presents a comparison of results in a group of children treated with routine anticonvulsant drugs and an equivalent group treated with oral hydrocortisone in addition to the anticonvulsants.

Thirty-six patients between the ages of three months and five years were selected for the study (Table 1). Sixteen of them who had been diagnosed and observed before 1958 served as the control group. The remaining 20, who were observed after 1958, received oral hydrocortisone (Cortef®) 30 mg per day in divided doses for periods up to 18 months. They also received the same drugs that were given to the control group. The steroid was given by mouth because of the ease of administration at home.

The groups were comparable as to sex ratio, age at the first visit, mean age at onset of seizures, and mean duration of seizures at the time of first visit. Table 2 indicates presumptive factors in the pathogenesis of the seizures in both groups. In ten of the 16 control patients and 11 of the 20 steroid-treated patients such factors were present.

TABLE 1 — Nature of Patients with Hypsarrhythmia Treated by Two Different Methods

	Control Group	Cortef-Plus* Group
Total number of patients	16	20
Male	9	10
Female	7	10
Age at initial visit:		
Youngest	3 mo	2 mo
Oldest	5 yr.	4½ yr
Mean age at onset of seizures:	7 mo	9½ mo
Duration of seizures at initial visit:		
Minimal	1 mo	2 mo
Maximal	3¾ yr	2¼ yr
Mean	9 mo	9 mo

*Received Cortef in addition to the therapy given to controls.

TABLE 2 — Presumptive Factors in Pathogenesis of Hypsarrhythmia in Two Groups of Patients

	Control Group (16)	Cortef-Plus Group (20)
Positive family history of seizures	2	3
Prenatal and perinatal factors (perinatal trauma, phenylketonuria, etc.)	3	4
Postnatal factors		
Immunization	1	3
Infection (croup, measles encephalitis, chicken pox, toxoplasmosis)	3	1
Cerebral lipidosis	1	-
Unknown	6	9

From the Department of Pediatrics and the Department of Neurology, University of California Medical Center, San Francisco.

TABLE 3 — Results of Treatment With and Without Steroids

	Control Group (16)	Cortef-Plus Group (20)
Good effect on seizures and development (see Table 4)	2	7
Good effect on seizures but not on development (see Table 5)	2	6
No effect on seizures or development	10	7
Insufficient follow-up	2	-

RESULTS

Results of treatment are summarized in Table 3 according to whether drug therapy affected the frequency of seizures and whether there was an associated improvement in overall development with this reduction in frequency.

It will be noted that treatment in seven of the 20 patients in the group receiving Cortef in addition to the other treatment (Cortef-plus group, Table 4) and two of the 16 patients in the control group had a beneficial effect on the seizures as well as on development. Similarly, six patients (Table 5) in the Cortef-treated and two in the control group had a reduction in frequency of seizures without a corresponding improvement in development, while seven of the steroid-treated patients (Table 6) and ten in the control group were refractory to treatment.

In order to learn more about the reasons for an apparent improvement of 13 of the steroid-treated patients and four of the control group, a more detailed analysis was undertaken. Of the seven infants (Table 4) in the steroid-treated group who showed a global response to hydrocortisone treatment, the first six were considered to have had normal development up to the onset of seizures. Four of the six had no obvious factors associated with the syndrome and fitted into the cryptogenic classification, while three had onset of seizures following administration of inactivated poliomyelitis vaccine. In this group, the mean age of onset of seizures was five months, while the mean duration of seizures before steroid medication was six months.

On analysis, this improvement is somewhat illusory — three of the seven infants were considered to be normal between one and two years following institution of treatment; the other four infants, in whom seizures had either ceased or were drastically reduced and in whom motor development was considered to be good, all showed a delay in speech.

Of the six infants in whom seizures but not development were improved with hydrocortisone medication (Table 5), five were considered to be retarded before the onset of seizures. Of these, two were judged to have suffered central nervous system insult during the perinatal period and in the other three no obvious factors were elicited in the history.

TABLE 4 — Data on Seven Patients in Steroid-Treated Group Who Had Beneficial Effect on Seizures and on Development

Patient	Sex	Age in Months	Age of Onset of Seizures (Months)	Duration of Seizures (Months)	Age Cortef Started (Months)	Response		Family History of Seizures	Perinatal Trauma	Associated Factors	Present Status
						Development	Seizure Control				
1	M	9	5	4	5	+	+++	—	—	5 days after polio innoc.	Age 21 mos. No attacks for 9 mos. Motor development normal. No speech.
2	F	7	5	2	7	+++	+++	—	—	7 days after polio innoc.	Age 24 months. Normal
3	M	11	6	5	11	+++	+++	—	—	—	Age 18 months. Normal
4	F	15	4	11	15	** Normal	+++	Mat. aunt breath holding spells	—	—	Age 25 months. Normal
5	M	9	3	6	5	++	+++	—	—	Vomiting in 1st 2 mos of life	Age 12 months. Attacks 4/day Development continues.
6	M	14	6	8	14	+++	+++	—	—	—	Age 30 mos. No attacks. Physical and emotional development good, but delayed speech.
7	M	11	6	5	11	+++	+++	Mat. uncle died age 29 Mat. cousin died age 12	1 mo. premature & jaundiced for 6 days	14 days after polio innoc.	Age 30 mos. No attacks. Physical and emotional development good, but delayed speech.
Mean (months)		11	5	6	10	—	—	—	—	—	—

+ = Slight ++ = Moderate +++ = Marked ** = Ref. Table 7

Presumably their basic defect was of prenatal origin. On this basis, at least five and possibly six infants fall into the symptomatic category. It is, therefore, not surprising that steroid medication did not modify their development although it illustrates that seizures may respond to hydrocortisone regardless of whether the infant falls into the symptomatic or cryptogenic category. The response was evident, despite a lapse of 12 months, compared with six months in the control group, before the commencement of hydrocortisone therapy.

Of the seven infants who were refractory to hydrocortisone medication (Table 6) two had onset of seizures within three days of birth and, in the absence of evidence to the contrary, it is presumed that prenatal factors were causative. Unfortunately, no permission was obtained for autopsy in the one infant who died at four months. One infant was born by cesarean section at the eighth month with symptoms of hypoxia at delivery. All of the six living infants were severely retarded: two had been put into institutions by the second year, and two were unimproved at 36 and 54 months despite continuous hydrocortisone therapy for 18 and 16 months, respectively.

The outstanding difference between this group (Table 6) and the other two (Tables 4 and 5) appeared to be the mean age of onset of the seizures — two months — as compared with five months (Table 4) and seven months (Table 5).

Also analyzed were the factors which concerned the three patients in the cryptogenic category (two in the control group and one in the steroid-treated group) who were normal when first seen and

TABLE 5 — Data on Six Steroid-Treated Patients Who Had Reduction in Seizures But No Improvement in Development

Patient	Sex	Age in Months	Age of Onset of Seizures (Months)	Duration of Seizures (Months)	Age Cortef Started (Months)	Response		Family History of Seizures	Perinatal Trauma	Associated Factors	Present Status
						Development	Seizure Control				
8	F	7	3	4	7	0	++	—	Forceps Hypoxia	—	Institution — Age 10 mos.
9	M	17	6	12	17	0	++	Mother in childhood	—	—	Age 36 mos. Motor development normal. No speech.
10	M	51	24	27	51	0	++	—	Premature	—	Age 57 mos. Occasional attack. Severely retarded.
11	M	7	1	6	7	0	+++	—	—	—	Age 19 mos. No attacks — but institution
12	F	16	2	14	16	0	+++	—	—	—	Age 18 mos. No attacks. Severely retarded.
13	F	11	4	7	11	+	+++	—	—	—	Age 24 mos. No attacks. Development slight.
Mean (Months)		18	7	12	18	—	—	—	—	—	—

0 = Minimal + = Slight ++ = Moderate +++ = Marked

TABLE 6 — Data on Seven Steroid-Treated Patients Who Were Refractory to Treatment

Patient	Sex	Age in Months	Age of Onset of Seizures (Months)	Duration of Seizures (Months)	Age Cortef Started (Months)	Response		Family History of Seizures	Perinatal Trauma etc.	Associated Factors	Present Status
						Development	Seizure Control				
14	M	7	3 days	7	7	0	0	—	—	—	Age 8 months. No improvement
15	F	31	3	28	31	0	0	—	—	Toxoplasmosis ?	Not known
16	M	7	4	3	7	0	0	—	—	—	Age 27 mos. Institution. No improvement.
17	F	18	1	17	18	0	0	—	—	—	Age 36 mos. No improvement. Cortef = 18 mos.
18	F	24	6	18	24	0	0	—	—	—	Age 54 mos. No improvement. Cortef = 6 mos.
19	F	2	3 days	2	2	0	0	—	—	—	Died 4 mos. No autopsy.
20	F	5	2	3	5	0	0	—	1 mo. prem. Caesarian Hypoxia +	—	Age 24 mos. Institution. Cortef = many months.
Mean (Months)		13	2	11	13	—	—	—	—	—	

0 = Minimal

TABLE 7 — Patients in Cryptogenic Category (two in control group, one in Cortef-treated group) Who Were Normal When First Observed and Responded Satisfactorily to Treatment

Patient	Age in Months	Age of Onset of Seizures (Months)	Duration of Seizures (Months)	Frequency of Seizures Per Day	Physical Exam.	Medication	Effect of Medication	Present Status
Case A (Control)	6	5	1	+++	Normal	Phenobarbital Phenurone	No attacks after 2 weeks	Age 7 yrs — Normal (School 3rd grade)
Case B (Control)	7	6	1	+++	Normal	Phenobarbital Ketogenic Diet	No attacks after 2 days	Age 3 years Normal
Case 4 (Table 4)	15	4	11	+++ for 18 mos. then- +	Normal	Gemonil Cortef	Stopped attacks	Age 2 years Normal

+ = Slight   +++ = Marked

who responded satisfactorily to the treatment they received.

Both patients in the control group (Table 7) were diagnosed one month after the onset of seizures and showed dramatic response within a few days after receiving the usual anticonvulsive agents. Their seizures stopped and both children were considered to be normal at seven years and three years. The reason for the prompt response is not clear.

The last patient in Table 7 is of particular interest for, despite seizures for 11 months before the first visit, she was otherwise considered to be entirely normal. This would seem to refute the suggestion that seizures *per se* cause retardation or, indeed, that seizures over a prolonged period inevitably result in permanent damage to the nervous system. In this patient, after eight months of severe seizures there was a spontaneous reduction in severity without any specific adjustment in the routine anticonvulsant therapy which was being given at the time. This illustrates a fact which necessarily complicates the assessment of long term therapy — that is, that the syndrome is self-limiting regardless of the pathogenesis. Spasms start in most of these infants within the first six months of life and continue with varying severity until sometime between the second and fourth year. At this time, whether medication has been given or not, the salaam seizures begin to decrease. More familiar seizure patterns — that is, those of the major or minor variety — may at any time complicate the salaam syndrome and continue despite the fading of the salaam seizure. However, few infants continue with salaam seizures beyond five years.

DISCUSSION

Initial reports on the treatment of the syndrome with steroids were all encouraging. Sorel[15] treated 11 children with systemic ACTH and achieved good results in six and felt that when treatment was started within the first month of symptoms, intellectual arrest could be spared.

Stamps et al[16] in the following year reviewed the results of 60 patients with infantile spasms with short term treatment with ACTH. Their criteria for a good response, with which we are in full agreement, consisted of attempts to prevent further retardation, control of the seizures, and normalization of the electroencephalogram. They reported an overall response of 30 per cent to treatment, an elimination of seizures in 18, and a decrease in 13. Motor performance and alertness were considered to be normal in six and improved in 18.

Low et al[10] reporting on ten children drew a parallel between them and children with phenylketonuria (one patient in our control group showed this metabolic error) though he felt that some of these children might have another underlying metabolic defect. Three children were given diets deficient in aromatic amino acids for three to five months, without clinical or electroencephalographic improvement (one child had a brief response on a tryptophan-deficient regimen). Low was the first to use cortisone, as well as ACTH, in treatment of children with this diagnosis. His study indicated that results were the same regardless of the type or route of medication.

Subsequent reports by Trojaborg,[17] Kiorboe and Dangaard,[1] and Dumeruth[5] all stressed the fact that while steroids could markedly diminish seizures, the response in terms of cessation of mental retardation was extremely disappointing (with which we would also agree). If one accepts the arrest of intellectual deterioration as the important criteria for improvement, then consideration must be given to the two distinct groups — the symptomatic and the cryptogenic. Unfortunately, few previous studies have given this factor sufficient consideration, with the result that it is extremely difficult to analyze the conclusions of any author.

A notable exception to this are the reports by Jeavons[8] and Bower[3] in 1961. Thirty control patients followed for periods of time varying from two to six years without steroid therapy were compared with 20 patients who received steroid therapy. The value of their study lies in the detailed and objective assessments made of both groups in regard to (a) the natural history of untreated infantile spasms, (b) objective recording of intellectual improvement, and (c) detailed electroencephalograph studies. In the control group there was a steady reduction in the number of patients who still had spasms at three years; over 50 per cent were entirely free of them. They stressed, however, that mental improvement was much rarer: only two of the 30 patients were mentally normal. There was slight difference between the symptomatic and cryptogenic groups with regard to the rate of spasm disappearance and improvement in electroencephalogram. Mental retardation was less severe in the cryptogenic group and was more apt to show a slight but definite general improvement later, whereas none occurred in the symptomatic group. In the steroid-treated group, corticotrophin or prednisolone was used for at least four weeks. Spasms ceased during the steroid treatment of 18, but recurred in 13 following cessation of therapy. No immediate mental improvement was noted in the steroid group — only two of the 23 patients achieved a developmental quotient of 80 or more. They concluded that "on the whole, in comparing the two groups, steroids have a long-term beneficial effect on the spasms, whereas their effect on mentality is doubtful." Our results are in accord with this: 13 of our 20 Cortef-treated patients had a moderate to marked response in seizure activity while only three of the 20 showed a normal mentality.

The overall response to therapy of any type must, of necessity, be dependent upon the individual pathogenesis. Unfortunately few pathologic studies have been reported. In our own series of patients, three of the control group are known to have died. Unfortunately no necropsy was performed on two; the third, at autopsy revealed pathologic changes of the early juvenile (Bielschowsky-Jansky) variant of cerebromacular degeneration. A fourth child in the control group had phenylketonuria.

Poser and Low[12] in 1960 reported the pathologic findings in three cases of infantile spasms which showed the same basic pathologic process, characterized by a chronic edema of varying intensity which resulted in a spongy degeneration. In the first case the grey matter was primarily involved, in the second the white matter with sparing of the grey, while the third showed involvement both of grey and white matter. Demyelinization was not a prominent feature in any of these cases. The findings were likened to some of the leukodystrophies, in particular those described by van Bogaert and Bertrand[18] as a "familial idiocy with spongy degeneration of the neuraxis." However, they pointed out that this latter condition, in addition to the status spongiosis of the grey and white matter, has extensive demyelinization which was absent in the three cases. Trojaborg[17] found severe cortical and subcortical destruction with an intense glial reaction. The etiology underlying the pathological picture of "infantile encephalomalacia" is mostly inferential and has been discussed at length by Wolf and Cowan.[20]

In contrast to the cryptogenic group, autopsy findings in the symptomatic group are related to the causative factor; e.g. reports by Paludin,[11] and Sinton[14] confirm the changes associated with perinatal trauma.

Mechanism of action of steroids

Despite the many reports on the use of steroids in this syndrome, the mechanism by which they achieve their effect is far from clear. Gastaut[6] and Roger[13], among others, have shown that in man ACTH and hydrocortisone have convulsant properties which are reflected in animals by their ability to lower the convulsive threshold. Yet, in infants with salaam seizures, and in children with minor seizures associated with three per second spike-wave discharges, their effect is reversed, so that both the clinical seizure and the associated abnormal electroencephalogram improve. Bower[2] pointed out that the mechanism by which this effect is achieved must be more fundamental than the action of routine anticonvulsants, where the electroencephalographic abnormality usually persists unchanged.

Hypoglycemia or imbalance of electrolytes has not been demonstrated in this syndrome.

It is of interest that the beneficial effects of steroids on salaam seizures and petit mal diminish at puberty and this would suggest that in the earlier age group steroids influence the maturation of enzyme systems.

Cochrane[4] found evidence of pyridoxine deficiency in five patients with salaam seizures and reported improvement after large doses of pyridoxine. Pyridoxine in the form of pyridoxal phosphate is important when it is realized that it is concerned in the formation of 5-hydroxytryptamine (Serotonin), an inhibitor of synaptive transmission, and gamma-amino-butyric acid (GABA), an anticonvulsant. For this reason, it is evident why tryptophan deficiency can lead to seizures. Despite this, Bower[2] failed to show improvement in three of his patients with systemic pyridoxine therapy.

It is also unsatisfactory to postulate that steroids achieve an effect through their anti-inflammatory properties. If this were so, no effect would be expected in the symptomatic group, where the basic insult has occurred some months before the onset of seizures. For lack of information, we must therefore rely upon empiric treatment.

Department of Pediatrics, U.C. Medical Center, San Francisco 94122.

REFERENCES

1. Biorboe, A. E., and Damgaard, K.: Infantile spasmer med hysarhytmi Behandlet med Prednison, Ugeskr. lseg., 122:139, 1960.

2. Bower, B. D.: The tryptophan load test in the syndrome of infantile spasms with oligophrenia, Proc. Roy. Soc. Med., 54:540, 1961.

3. Bower, B. D., and Jeavons, P. M.: The effect of corticotrophin and Prednisolone on infantile spasms with mental retardation, Arch. Dis. Child, 36:23, 1961.

4. Cochrane, W. A.: The syndrome of infantile spasms and progressive mental deterioration related to aminoacid and pyridoxine metabolism, Proc. Int. Cong. Pediatrics, Montreal, July 19-25, 1959, Scientific Program, U. Toronto Press, 1959.

5. Dumermuth, V. G.: Über die Blitz-Nick-Salaam-Krämpfe ihre Behandlung mit ACTH und Hydrocortisone. (Vorlaufige Mittelung) Helv. paed. acta, 14:250, 1959.
Effets cliniques et electroencephalographiques de l'ACTH

6. Gastaut, H., Miribel, G., Favel, P., and Vigouous, M.: dans les differents types d'epilepsie, Rev. Neurol., 101:753, 1959.

7. Gibbs, E. L., and Gibbs, F. S.: *Atlas of Electroencephalography,* Cambridge, Addison-Wesley, 1952, vol. 2.

8. Jeavons, P. M., and Bower, B. D.: The natural history of infantile spasms, Arch. Dis. Child, 36:17, 1961.

9. Lennox, W. G., and Davis, J. P.: Clinical correlates of the fast and slow spike-wave electroencephalogram, Ped., 5:626, 1950.

10. Low, N. L., Bosma, J. F., Armstrong, M. D., and Madsen, J. A.: Infantile spasms with mental retardation: 1. Clinical observations and dietary experiments, Ped., 22:1153, 1958.

11. Paludin, J.: Autopsy findings in a child with infantile spasms and hypsarrhythmia, with a survey of the effect of ACTH, Danish Med. Bull., 8:128, 1961.

12. Poser, C. M., and Low, N. L.: Autopsy findings in three cases of hypsarrhythmia. (Infantile spasms with mental retardation). Acta paediat., 29:695, 1960.

13. Roger, A., and Poirier, F. (editors): *Les Encephalopathies Myocloniques Infantiles avec Hypsarhythmie,* Preprint 9th European Conference on EEG, Marseilles, Oct. 1960, pp. 30.

14. Sinton, D. W., and Patterson, P. R.: Infantile spasms, Neurol., 12:351, 1962.

15. Sorel, L., and Dusaucy-Bauloye, A.: A propos de 21 cas d'hypsarhythmia de Gibbs: son traitement spectaculaire par l'ACTH, Acta neurol. et psychiat. Belg., 58:130, 1958.

16. Stamps, F. W., Gibbs, E. L., Rosenthal, L. M., and Gibbs, F. A.: Treatment of hypsarhythmia with ACTH, J.A.M.A., 171:408, 1959.

17. Trajaborg, W. W., and Plum, P.: ACTH-Behandling of "Hypsarhythmia," Ugeskr. laeg., 122:311, 1960.

18. Van Bogaert, L., and Bertrand, I.: Sur une idiotie familiale avec degenerescence spongieuse du nevraxe, Acta Neurol. et Psychiat. Belg., 49:572, 1949.

19. West, W. J.: On a peculiar form of infantile convulsion, Lancet, 1:724, 1840-41.

20. Wolf, A., and Cowen, D.: The cerebral atrophies and encephalomalacies of infancy and childhood, J. Res. Nerv. & Ment. Dis. Proc., 34:199, 1954.

Management of Atopic Dermatitis

A Preliminary Report

JUD R. SCHOLTZ, *M.D.*, Pasadena

• A treatment regimen for atopic dermatitis (disseminated neurodermatitis) which attempts to cope with the factors of dry skin and retention of sweat was successful in a series of 22 consecutive patients, all of whom remain under observation. Objectives of the treatment are: Preservation of the natural lipid surface film, avoidance of controllable stimuli to sweating, avoidance of greases and oils topically applied, control of bacterial infection in the skin, resolution of active dermatitis with topical corticosteroids in vehicles low in lipids or free of them, and correction of existing keratoderma. This program does not purport to alter atopic constitutional factors.

Among the 22 patients were seven with severe dermatitis requiring prolonged, continuous or intermittent, systemic corticosteroid therapy who were treated and had no exacerbation for periods up to ten months at the time of last report. The total daily dose of topical corticosteroid is small. Systemic corticosteroid therapy was withdrawn at the initiation of this treatment and has not been reinstituted. No untoward reactions have been observed.

Results to date warrant treatment and long term observation of additional patients to determine the ultimate value of this method.

COMPLETELY SUCCESSFUL TREATMENT of severe atopic dermatitis is yet to be achieved. Long-term systemic steroid therapy produces good control for many patients, but unfortunately it is associated with serious, undesirable metabolic complications. Topical corticosteroid therapy by surface depot (occlusive) therapy, often quite effective in inflammatory dermatosis, cannot be used for most patients with disseminated neurodermatitis because of the sweat retention factor. A treatment regimen which could control the skin lesion without using systemic corticosteroids, and obtain optimum effects from the highly active topical corticosteroids now available is desirable.

Since December, 1962, I have employed a treatment regimen which has proved superior to any in my previous experience. The program is designed to attempt to cope with the skin lesion itself and does not alter the many constitutional, humoral, physiologic and psychologic factors known to affect the clinical manifestation. It appears to be a means of making the patient more comfortable and of promoting a considerable degree of healing of the dermatitis.

The experiences reported here are empirical clinical observations in the form of case reports, and no conclusions are drawn or implied relative to the basic nature and cause of atopic disease.

That xeroderma, keratoderma, and sweat retention are commonly associated with atopic dermatitis is widely recognized and recorded in the literature. (Sulzberger,[4,5] Dewar and Fergusson,[1] Lobitz and Dobson[2]). The possible relation of these factors to atopic dermatitis has been repeatedly and clearly discussed in the writings of Sulzberger, who also lists "almost all greases and greasy ointments"[4] among the trigger factors which cause aggravation of atopic dermatitis.

OBJECTIVES OF TREATMENT

The treatment program used in the present study has the following objectives:

- Preservation of whatever natural lipid surface film is present in the patient. In this respect the management is analogous to that of any patient with "dry skin eczema," asteatotic skin, or xeroderma.
- Avoidance of all controllable factors which induce exacerbation such as: (a) stimulus to sweating by the conventional hot bath, medicated or otherwise. (b) All greases and ointments, and lipid emulsions. (c) Any topical medication which may possibly produce irritation of any kind.
- Healing of the active dermatitis with topical corticosteroids.
- Control of bacterial infection in the skin when present.
- Correction of the keratoderma if possible.

CLINICAL MATERIAL

Since December, 1962, twenty-two consecutive patients with atopic dermatitis seen in private practice have been managed by this program. The results have been most encouraging in all patients, and no patient has been lost from observation. The patients

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Submitted November 4, 1963.

of most significance and the subject of this report are seven adults with intractable disease of many years' duration with only minor remissions that were usually induced by systemic corticosteroid therapy. All had received long-term corticosteroid therapy continuously or intermittently, and attempts to discontinue systemic corticosteroids had resulted in prompt exacerbation. All had been under competent dermatologic management, some of them in major medical institutions.

This group of patients therefore might be considered to be a stern challenge to any treatment. For example Sulzberger[4] noted that "cases persisting or beginning after the middle twenties are the most difficult to manage, usually have little tendency to spontaneous cure and fortunately are relatively rare." Obermayer[3] observed that in patients whose disease has persisted into the third decade of life, spontaneous remission is unusual, the disease being chronic and recalcitrant and the prognosis poor.

TREATMENT MEASURES THAT WERE NOT USED

None of the patients was put in hospital. Diet was not controlled in any way. Daily routine activities were not changed—working and professional people remained on their jobs, college students continued in school and housewives continued all routine activities. Psychological factors were not discussed. Sedatives and tranquilizers were not routinely used (see later comment). There was no change of marital status in any patient. All had lived in California for at least three years and there had been no recent change in environment.

REGIMEN OF MANAGEMENT

The treatment regimen was as follows:

- Systemic corticosteroids were discontinued.
- Bathing or washing, medicated or otherwise, was prohibited (except as indicated below), since this might remove natural lipid surface film. Also, since hot baths stimulate sweating, they were avoided on that ground also. Ocean swimming usually is well tolerated by persons with atopic dermatitis.
- The skin was "cleansed" daily with a lipid-free lotion (Cetaphil lotion, Texas Pharmacal.). It was applied once or more daily and was left to dry or was gently wiped off. Soap and water cleansing was permitted in axillary, inguinal-crural and perianal areas and also fingers and toes if not involved with dermatitis. This program was aesthetically acceptable to all patients.
- Greasy and lipid lubricants were not permitted. Although lubrication might be desirable, I have not found a "lubricant" which does not cause heating and itching of the atopic skin.
- Acutely inflammatory areas were assumed to be infected with bacteria, and antibiotics were given systemically for 10 to 12 days when indicated. The erythromycin series are routine except when others are indicated by culture and sensitivities.
- Corticosteroid topical therapy is carried out. The measures already noted are essential if maximum benefit is to be derived from active topical medication such as corticosteroids. Conversely, it can be said that much of the benefit from topical corticosteroids can be lost due to adverse concomitant local measures. I have used fluocinolone acetonide 0.01 per cent in propylene glycol as the major steroid. However, triamcinolone acetonide and fluorandrenolone should be effective, provided they are applied in lipid-free vehicles.

The maximum daily amount of fluocinolone acetonide solution 0.01 per cent used was 15 cc. (equivalent of 1.5 mg. of the active drug). Usually it was applied in two to three applications, with less being used as the involved area decreased. The solution was dropped onto the skin surface with a dropper and spread with the fingers—one drop covering about 25 square centimeters if the skin surface is reasonably intact. The solution should be rubbed gently until it seems to be rubbed in.

- Vitamin A, 50,000 units daily in adults, is given for at least six months.
- Thyroid extract U.S.P., 30 to 60 mg, is administered daily unless contraindicated. Protein-bound iodine and other thyroid function tests were not routinely done in this group of patients. However, my past experience has shown no consistent laboratory evidence of significant hypothyroidism in patients with atopic dermatitis, the PBI being in the range of 4 to 5 micrograms. Thus giving thyroid extract routinely is open to criticism in these circumstances. I have given it with the idea that it may potentiate the effect of the Vitamin A, as I do routinely with patients with keratoderma.
- Phenobarbital, antihistaminic and ataractic agents are given in the early phases when pruritis is still present. None of these seven patients required such medication for more than two weeks at the beginning of treatment.
- Exercise and exposure to direct sunlight are permitted only after decided improvement has occurred and the patient notices sweating on the surface of the skin in the affected area.

RESULTS OF TREATMENT

Results of treatment by the method outlined were as follows:

- Achievement of patient comfort—usually some degree of subjective improvement in less than two weeks.

- In all seven patients the disease remained in control without return to the use of systemic steroids.
- Major, but not complete, healing of the skin occurred, including disappearance of heavy lichenification in some areas, return of the skin toward normality, decrease of keratoderma, and apparent return of more normal lipid surface film. Such changes require from two to six months.
- Return of more normal sweating in three patients.
- Disappearance of pronounced white dermographism. Three patients volunteered this observation.
- Good results with small total daily dose of topical corticosteroids.

The short-term results of treatment have been good, but the ultimate evaluation must await long-term observation and treatment of many more patients. In this group the longest period of control, to the time of this report, was ten months (two patients) and the shortest was four months (one patient). The important fact is that none of the patients has needed or asked for resumption of treatment with systemic steroids.

Fluocinolone acetonide in propylene glycol solution was supplied through the courtesy of Kenneth Dumas, M.D., Medical Director, Syntex Laboratories, Palo Alto, California.

960 East Green Street, Pasadena, Calif.

Addendum: Since the preparation of this report, seven additional adult patients with severe atopic dermatitis have been successfully treated.

REFERENCES

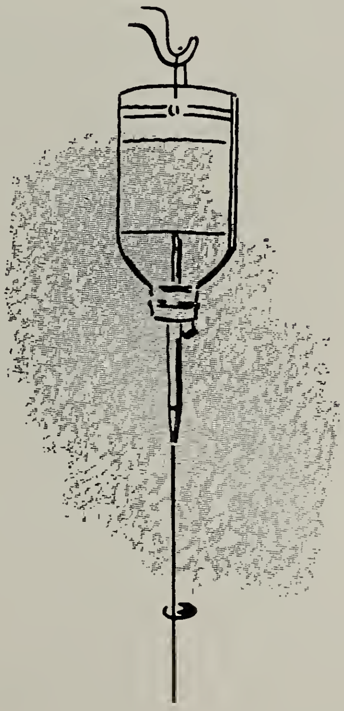
1. Dewar, W. A., and Fergusson, A. G.: Clinical and Histologic Studies in Atopic Eczema, XII International Congress of Dermatology, Washington, D.C., 1962.

2. Lobitz, W. C., Jr., and Dobson, R. L.: Physical and physiological clues for diagnosing eczema, J.A.M.A., 161:1226, July 28, 1956.

3. Obermayer, M. E.: Psychocutaneous Medicine, Charles C. Thomas, Springfield, 1955, p. 251.

4. Sulzberger, M. B.: Atopic Dermatitis, R. L. Baer, editor, New York University Press, 1955, Chapter 2.

5. Sulzberger, M. B.: In discussion—Sternberg, T. H., and Zimmerman, M. C.: Stress studies in the eczema-asthma-hay fever diathesis, A.M.A. Arch. of Derm. and Syph., 65:392-400, April 1952.



Local Anesthesia for Hernioplasty

Immediate Ambulation and Return to Work—A Preliminary Report

IRVING L. LICHTENSTEIN, *M.D.*, Beverly Hills

• In 50 cases in which hernioplasty was carried out with atraumatic technique under local anesthesia, the patients walked away from the operating table, then through the corridors, without assistance. They usually drove home the next day and returned to their regular occupations immediately. Few had pain necessitating more than mild analgesia.

In a period of follow-up ranging from six months to three years at the time of this report, two patients had recurrence.

FROM EXPERIENCE in the past three years with repair of inguinal and femoral hernias in 50 consecutive cases with only local anesthesia, these general statements can be made: The patient walks away from the operating table without assistance and requires no hypodermic injections of drugs for pain postoperatively. He is discharged from the hospital in less than 24 hours after operation with all sutures removed. No restriction of activity is imposed. Indeed, the patient usually drives home and he is encouraged to return to his ordinary mode of living and occupation immediately.

Regardless of the method of hernia repair, good wound healing is the common denominator of success.

A wound in skin or fascia never regains its original strength. Even a year after operation, fascia is only 80 per cent as strong as undamaged tissue.[1] Rather than achieving maximum tensile strength in two weeks (period of fibroplasia) as was formerly believed, fascia undergoes a rapid gain in strength for two months (period of "differentiation" of collagen fibers), then a slower rate of gain over the next year. Skin, even though it heals more rapidly than fascia, nevertheless is restored to no more than 20 per cent of ultimate tensile strength in the first two weeks.

Dunphy and Jackson[3] noted that the first phase of wound healing depends on the collagen concentration, the second phase depends upon the architectural orientation of the collagen fibers. From six weeks to years may be required for completion of the second phase, depending on function. In tendon healing, for example, the orientation of the collagen fibers in the extended state approximates that of the original tendon fiber. In the relaxed state there is a random arrangement of collagen, resulting in lower tensile strength.

"This indicates," Dunphy and Jackson said, "the importance of use and strain on the factors which lead to the attainment of optimal tensile strength. The changes of physical state and fiber orientation are probably a physico-chemical phenomenon which *cannot be influenced greatly except by use* (italics added). These are the determining factors responsible for at least 80 per cent of the tensile strength finally attained." The use of non-absorbable sutures ensures approximately 30 per cent restoration of original tensile strength from the moment of completion of operation to about six weeks postoperatively. With catgut, even assuming maximum collagen deposition, a minimum of six weeks must elapse before a comparable rate of wound healing can be achieved.[3]

From these observations, it would appear that immediate ambulation and return to ordinary physical activity not only does not interfere with wound healing, but may actually promote the tensile strength of the surgical wound.

It has long been appreciated that skin healing adds little to the strength of a surgical wound. Sutures are used merely to approximate the edges. They can be removed within hours. Indeed they can be dispensed with and if the wound is sufficiently buttressed by adhesive bridges (preferably of the plastic variety) healing may be improved—this because without sutures the factors of trauma, foreign body, infection, necrosis and other possible retardants to the normal process of wound healing are diminished. Recently, a microporous, chemically inert, non-slipping synthetic adhesive* has become available which may indeed obviate the need for skin sutures.[5] This adhesive is non-macerating, nonirritating, non-epilating though tenacious, not obstructive to drainage of underlying secretions, and is easily handled with rubber gloves.

Sutureless skin closures rather than stitches were used in the last five of the previously mentioned 50

From the Department of Surgery, Cedars of Lebanon-Mount Sinai Hospital, Los Angeles.

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*Steri-Strip. Minnesota Mining and Manufacturing Company, St. Paul, Minnesota.

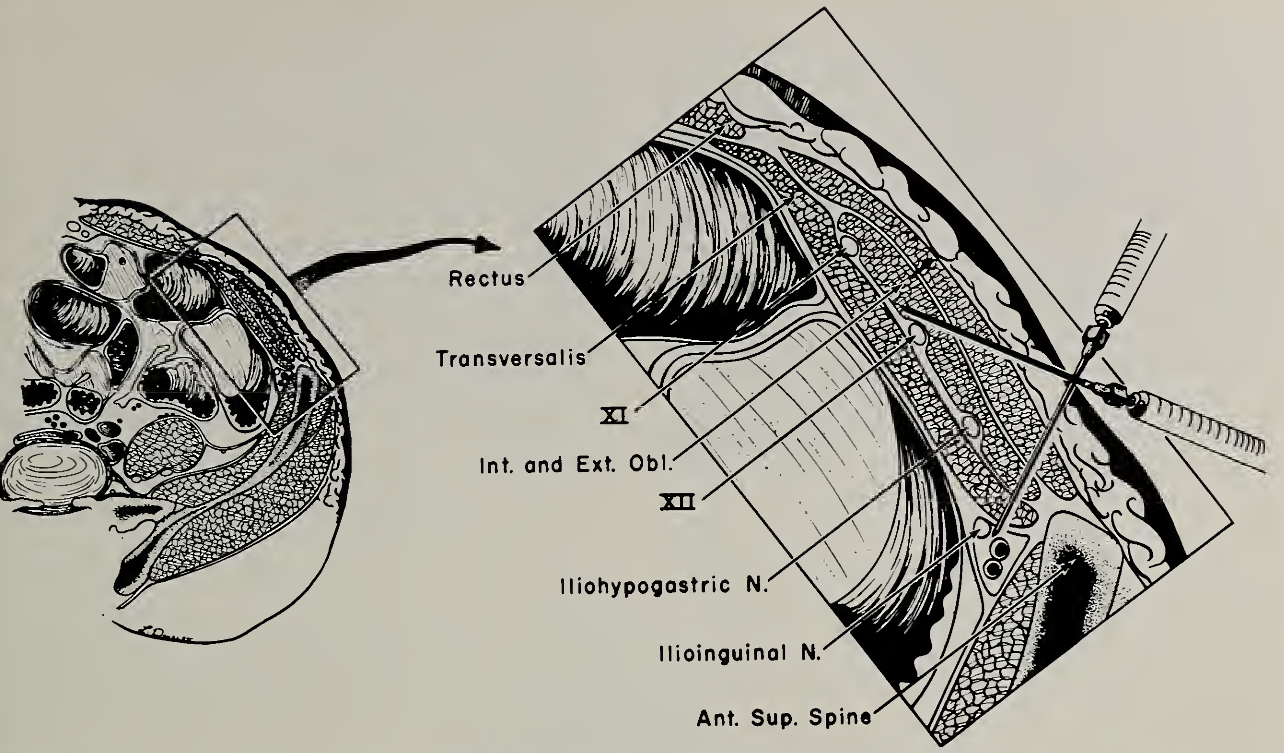

Figure 1.—At a point of entrance 2 cm medial to the anterior superior spine of the ilium, 10 ml of local anesthetic agent is deposited about the eleventh, twelfth, ilioinguinal and iliohypogastric nerves.

cases in which hernia repair was carried out with local anesthesia. There appeared to be a slight initial advantage with this method, although skin and subcutaneous tissue approximation was not as precise as it might have been had sutures been used.

LOCAL ANESTHESIA

In the 50 cases light presurgical sedation was used so that the patient would be able to walk from the operating table without assistance immediately after operation. In no case was more than 50 mg of seconal or 50 mg of meperidine (Demerol®) used. Local anesthesia was used in all cases and the concentration of xylocaine for the nerve block and infiltration was 0.5 per cent in the last 35 of the 50 cases reported here, having been reduced from a 1 per cent mixture that was used in the first 15 cases. The reduction had no effect on the efficacy of anesthesia. No untoward reactions were observed with either concentration. Sometimes from 70 to 100 ml of solution was needed for bilateral repair, 30 ml usually sufficing for unilateral operation.

Administration of the anesthetic agent is not difficult; after a little experience it can be done confidently and quickly. Briefly,[†] a nerve block of the area is obtained by inserting a 4 inch No. 25 gauge needle 2 cm medial to the anterior superior spine of the ilium. Ten ml of solution is injected as the needle traverses the parietal muscles, first in the direction of the iliac spine to block the iliohypogastric and ilioinguinal nerves, and then toward the umbilicus to block the last two intercostal nerves. Finally, 20 ml of the anesthetic agent is used as supplemental infiltration.

SURGICAL TECHNIQUE

The type of hernia repair selected should be determined at the operating table after an evaluation of the particular defect. Rarely are two cases exactly alike. More important than the choice of ligaments is thoroughness in exploration of the inguinal and femoral areas and care in dissecting, exposing and repairing the defect.

Atraumatic surgical technique is mandatory. This includes sharp dissection, moistening pads, wound drapes, using the smallest hemostats that will serve and eschewing mass ligatures or sutures so tight as to cause strangulation of tissue. Care must be taken not to cause trauma with clamps and retractors. Fine non-absorbable sutures have repeatedly been shown to provoke less inflammation than catgut. This fact plus the greater strength obtainable with such sutures in wound closure contraindicates the use of absorbable material, particularly if the patient is to return promptly to work.

Good transversalis fascia is almost always present, and it is to be searched for painstakingly beneath the transversus muscle if necessary. At least one suture is placed in the fascia lateral to the internal ring and the site of exit of the cord in order to prevent an indirect recurrence. That this item of technique is often overlooked is indicated by the relatively high incidence of recurrent indirect hernias.[6,7] After the suturing of the transversalis fascia (and high ligation and excision of the indirect sac, if present), the repair is tested by ordering the patient to cough vigorously and repeatedly. Early in the present series this test revealed an unexpected high frequency of suture rupture because of undue tension. Once this layer is determined to be secure, a flap is taken from the lateral leaf of the external oblique aponeurosis, brought medially beneath the cord and sutured to the transversalis fascia as reinforcement. This procedure, adopted from Zimmerman,[8] allows the internal oblique muscle to fall back in normal position over the cord and preserves the shutter mechanism. Without tension or interposition of other structures, the technique supplies a flap of strong, well-nourished fascia in immediate apposition with the transversalis over a broad surface.

[†] The reader is referred to Pitkin's Conduction Anesthesia, edited by Southworth and Hingson, and published by Lippincott.

Before closure, a relaxing incision is made in the anterior rectus sheath to avoid traction on the repair, then all layers are sutured with interrupted fine silk, electrocautery being used as needed for hemostasis. Recently we have been using Steri-Strips instead of skin clips for approximation of the edges of the skin.

When closure is finished, the patient sits up and without assistance puts on a robe and slippers and walks away from the operating table. He is encouraged to walk the equivalent of several blocks through the corridor before returning to bed. All patients have eaten heartily at the next mealtime after the operation. The morning after the operation, clips are removed if any were used in closure, two Band-Aid® bridges are applied and the patient is discharged from the hospital with instruction not to restrict activity. Ordinarily he drives home.

RESULTS

Fifty cases in which herniorrhaphy had been done by this method were reviewed at the time of this report. Various kinds of hernia were dealt with:

Type of Hernia	*Number of Cases*
Direct	17
Indirect	16
Direct and Indirect	6
Recurrent	5
Sliding	2
Femoral	2
Other*	2
Total	50

The age range of patients was from 16 to 78 years. Four of the patients were women. Follow-up was maintained in all cases and at the time of this report the time since operation ranged from six months to three years. There were two recurrences—in one case because a femoral component was not recognized at operation, and in the other because of reluctance to utilize a metal screen when the fascia was inadequate for sound repair.

Temporary ecchymosis about the wound site was occasionally noted, and in one case there was infection with sinus formation, but without recurrence.

Although nurses are instructed to give the patients meperidine (Demerol) intramuscularly as needed for relief of pain after operation, 46 of the 50 required no injections. For most of them one or two Percodan tablets sufficed and many required no analgesia. All skin sutures were removed before discharge. Most of the patients were released within one day of the operation. Of those who remained in the hospital more than 24 hours postoperatively, all but two did so as a convenience and not because of pain or fever.

DISCUSSION

Longer periods of follow-up would be desirable but it is pertinent that in general almost 50 per cent of recurrences of hernia occur during the first postoperative year.[7] The overall incidence of recurrence of all types of inguinal hernia is about 7 per cent,[4] the rate rising to over 20 per cent[6] when data are restricted to repair of recurrent hernia. The recurrence rate in the present series thus appears to compare favorably with rates reported in the literature.

The disadvantages of the described technique are few. Critics may be skeptical concerning the ability of a wound to heal without rest and splinting. Suffice it to say that coughing, vomiting, and straining at stool increase abdominal pressure far more than does early ambulation.[2] Moreover, rest diminishes the ultimate tensile strength of the wound.

Lack of confidence on the surgeon's part may lead to inadequate dissection and exposure under local anesthesia, but with experience this can be overcome.

The explanation for the relative absence of pain is not clear. The sharp dissection, meticulous technique and gentle handling of tissues necessitated by the local anesthesia may in part be the answer. It is the author's impression, however, that immediate ambulation prevents muscle spasm and thus keeps the pain cycle from beginning.

Beyond the absence of pain, the advantages are many and apparent. Minimal hospitalization, reduced cost, immediate return to work, virtual absence of anesthetic or cardiac risk and freedom from urinary retention, gas pains and postoperative complications (pneumonia, atelectasis, thrombosis, nausea and vomiting) are but a few. More important than the economic factor, however, the procedure forces the surgeon to be gentle, to use sharp dissection, meticulous technique and fine non-absorbable sutures. He is able to clearly delineate the defect by having the patient cough (impossible under general anesthesia), and can test the adequacy of his repair when the first suture line secures the transversalis fascia before it is buffered with other layers, thus ensuring against recurrence.

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*One indirect inguinal hernia associated with resection of undescended testicle (performed entirely under local anesthesia) and one direct and femoral hernia.

9735 Wilshire Boulevard, Beverly Hills.

REFERENCES

1. Douglas, D. M.: The healing of aponeurotic incisions, Brit. J. Surg., 40:79, 1952.

2. Drye, J. C.: Intraperitoneal pressure in the human, Surg., Gynec. & Obst., 87:472, 1948.

3. Dunphy, J. C., and Jackson, D. S.: Practical applications of experimental studies in the care of the primarily closed wound, Amer. J. Surg., 104:273, 1962.

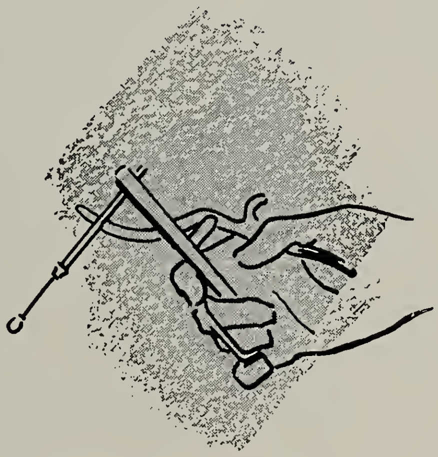
4. Glenn, F.: The surgical treatment of 1,545 herniae, Ann. Surg., 125:72, 1947.

5. Golden, T., Levy, A. H., and O'Connor, W. T.: Primary healing of skin wounds and incisions with a threadless suture, Amer. J. Surg., 104:603, 1962.

6. Marsden, A. J.: Inguinal hernia, Brit. J. Surg., 49:384, 1962.

7. Martin, J. D., and Stone, H. H.: Recurrent inguinal hernia, Ann. Surg., 156:713, 1962.

8. Zimmerman, L. M.: Recent advances in surgery of inguinal hernia, Surg. Clin. N. Amer., 32:135, 1952.



Carcinoma of the Esophagus

H. BRODIE STEPHENS, *M.D.*,* San Francisco

CARCINOMA OF THE ESOPHAGUS is not a rare disease. It constitutes about 4 per cent of all malignant lesions of the gastrointestinal tract. If one includes lesions arising in the cardia of the stomach near the esophageal opening, then about 10 per cent of all gastrointestinal malignant tumors are in this area. Unless successfully treated, the disease is uniformly lethal, generally within one year of symptomatic onset. Death results from inanition, metastasis or a complicating infection.

The disease is more common in men and reaches its peak incidence in the early sixties; in women it tends to occur at an earlier age and has a predilection for the proximal third of the tract. In men, the middle and distal thirds are principally involved. The hypopharynx and esophagus are sometimes affected together, and it is then difficult to establish the exact site of the origin of the lesion. An important predisposing cause in women is the atrophic esophageal mucous membrane characteristic of the Plummer-Vinson syndrome.

Carcinoma of the esophagus varies in gross appearance. Most often it is a rough-surfaced, button-like lesion involving part of the circumference of the lumen. Ultimately the entire wall may become involved in a broad, encircling lesion and the lumen may be decidedly reduced. Some small growths may produce early stenosis as a consequence of a pronounced desmoplastic reaction (scirrhous carcinoma.) Most difficult to diagnose are the malignant lesions that resemble leukoplakia or those that remain largely submucosal. In the case of the latter, very little mucous membrane may become ulcerated. The lesion is like a mole's burrow in character, surfacing at several points in the form of a series of malignant nodules or ulcers, a point of practical import in connection with surgical resection.

Most malignant tumors of the esophagus are poorly-differentiated epidermoid lesions. At the lower end of the esophagus or rarely elsewhere, there may occur lesions of adenocarcinomatous structure. Those adenocarcinomas occurring at the lower end of the esophagus probably arise in the stomach and extend upward into the esophagus.

Metastatic spread of carcinoma of the esophagus is chiefly by lymphatic channels. When the lesion involves the upper two-thirds of the esophagus, the secondary deposits are found in the mediastinal, parabronchial and deep cervical lymph nodes. The lesions in the lower third spread into the nodes along the lesser curvature of the stomach.

Malignant tumors penetrating the wall of the esophagus have access directly to the vital structures of the neck and mediastinum. In the upper third, the trachea, nerves such as the recurrent laryngeal nerve, and the great vessels may be invaded. In the middle third, there may be invasion of the trachea or left main stem bronchus, and ultimately a tracheo-esophageal fistula may result. Pulmonary complications are common in the late stages of the disease. Bronchial obstruction or aspiration of food particles are the chief sources of such complications.

SYMPTOMS AND DIAGNOSIS

There is only one important symptom in carcinoma of the esophagus and that symptom is dysphagia. Any patient over 40 years of age who gives the history of difficulty in swallowing or even any change in swallowing from the normal should be viewed with the suspicion of primary carcinoma of the esophagus until this diagnosis is proven incorrect. Symptoms of early esophageal carcinoma are minimal. Transient choking on dry crumbs or upon swallowing a large bolus, or a vague discomfort on swallowing must be viewed with active suspicion if any improvement in the early diagnosis of this disease is to be accomplished. When dysphagia becomes evident, it is first for solid foods, then soft foods, and eventually liquids. Regurgitation, weight loss, anemia, hematemesis, hoarseness, cough, thoracic back pain and dehydration are late symptoms and signs. Unfortunately the great majority of patients suffering from carcinoma of the esophagus first present themselves to the physician with the chief complaints of difficulty in swallowing and weight loss. On the average, these symptoms have

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*Department of Surgery, University of California School of Medicine, San Francisco.

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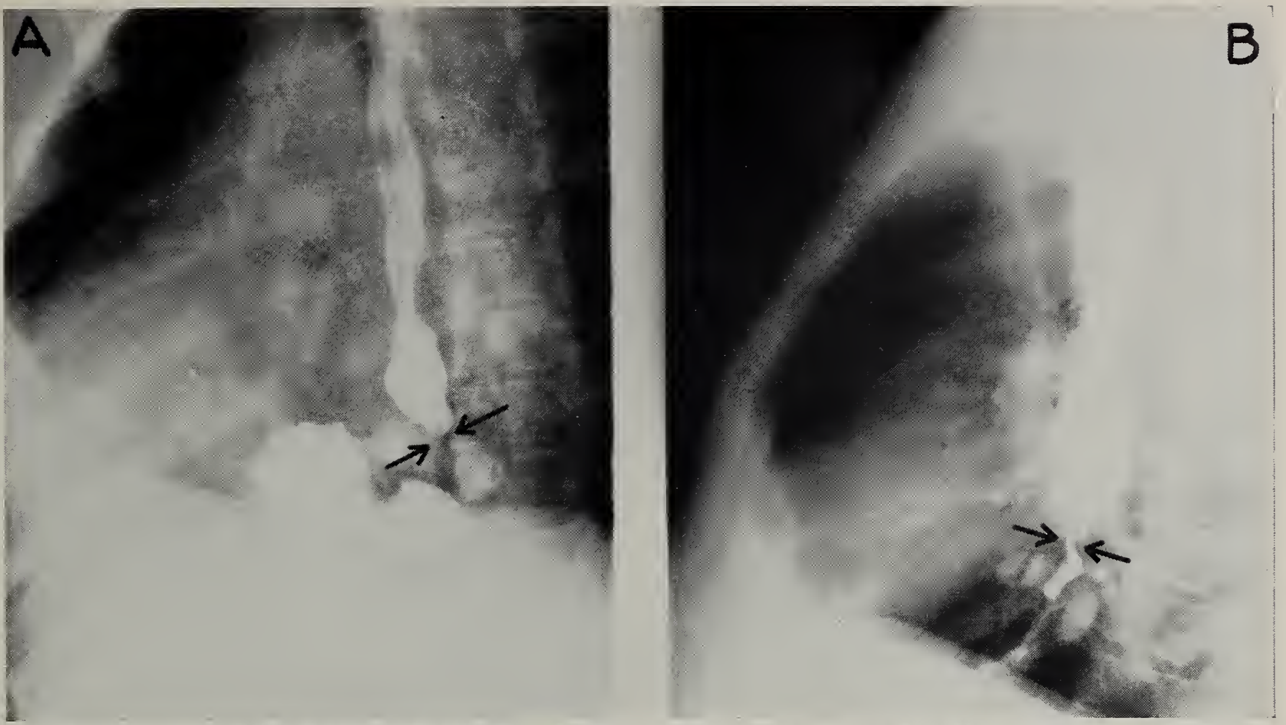


Figure 1.—Contrast studies of the cardioesophageal junction in a man 65 years of age in 1961. This patient was known to have had a sliding hiatal hernia since 1954. Film at left shows appearance of the cardioesophageal junction on February 27, 1956. The arrows indicate the point of union between the esophagus and the supra-diaphragmatic portion of the stomach. Film at right is of the same area on March 29, 1961, the arrows pointing to the cardioesophageal junction. Biopsy of a specimen taken from the area of stricture revealed adenocarcinoma on this date.

been present for six months and the weight loss is usually significant, averaging over twenty-five pounds. [1,5]

The diagnosis of carcinoma of the esophagus can be established readily in the majority of cases. Thorough roentgen ray study with the use of thin and thick mixtures of barium will disclose even a very small filling defect in the esophageal mucosa. Fluoroscope examination is a part of the roentgen study, as it will reveal abnormalities in the muscular function of the esophagus. Recently cinefluoroscopy has become available in many clinics. This method of investigation is particularly helpful since it permits repeated visualization of the fluoroscopic image and thereby intensifies the detail of abnormalities in the muscular function of the esophagus. In the vast majority of cases the diagnosis of carcinoma can be proved or disproved by esophagoscopic examination. The instrument can usually be introduced after the pharynx is locally anesthetized. General anesthesia is required for highly nervous patients or for those having a short, thick neck with limited mobility. A satisfactory biopsy specimen can usually be obtained through the esophagoscope. Sometimes obtaining adequate visualization at the lower end of the esophagus is difficult, for carcinoma there may cause so much stenosis that the esophagoscope cannot be introduced deep enough. In such a case there is not sufficient lumen to permit the biopsy forceps to penetrate into the actual malignant growth. The diagnosis in such circumstances must always be carcinoma of the esophagus until proven otherwise. Exploratory thoracotomy may be required to establish the correct diagnosis.

Stenosis at the distal end of the esophagus may be the result of peptic esophagitis in association with a sliding hiatal hernia. Cardiospasm also will cause obstruction in the region of the cardioesophageal junction. These two disease entities enter into differential diagnosis of obstructive lesions of the lower third of the esophagus. They can usually be differentiated from carcinoma of the esophagus by history, roentgen examination, esophagoscopic findings and biopsy. However, one must always be cognizant that carcinoma can occur in conjunction with either a sliding hernia (FIG. 1) or cardiospasm. Therefore, one must view with suspicion increasing symptoms of obstruction in a patient who is believed to have a benign disease. It is only by being constantly suspicious of a possible malignant tumor appearing at the site of chronic obstruction that the correct diagnosis will be established.

OPERATIVE PROCEDURES

Operative procedures for excision of malignant tumors of the esophagus and cardioesophageal area have now become standardized and can be carried out with an acceptable proportion of survivals and an acceptable incidence of morbidity and mortality. The stomach is most commonly employed to replace the esophagus. Exposure may be obtained in the lower-third lesions by a combined thoraco-abdominal incision on the left side. This incision, which traverses the costal arch and extends across the abdomen to the mid-line, provides excellent exposure of the esophagus and stomach from the level of the aortic arch to the first portion of the duodenum. This approach provides adequate exposure to reestablish esophageal gastric continuity up to the level of the inferior pulmonary vein. In the middle-third esophageal lesions, the author prefers to employ two incisions. The stomach is first mobilized through an upper right paramedian abdominal incision and pyloroplasty is performed. Then the abdominal incision is closed and patient is turned on his left side so that the right chest can be opened through a postero-lateral incision at approximately the level of the 6th rib. This thoracic incision permits excision of the distal three-fourths of the esophagus. The mobilized stomach is drawn up through the hiatal opening and continuity is established at the level of the apex of the pleural cavity.

The Wookey procedure provides a very satisfactory method for dealing with lesions involving the lower part of the pharynx and upper portion of the esophagus. This operation is a two-stage procedure. At the first operation, a transversely-placed rectangular, full-thickness skin flap is fashioned. The involved tissue is then excised, usually the larynx, pharynx and upper cervical esophagus. A unilateral dissection of the lymph nodes of the neck may be included in the excision of the involved structures. The skin flap in then utilized to construct a deep skin-lined groove connecting the pharynx above and the esophagus below. A period of six to twelve weeks is then required for the transplanted skin to pick up an adequate blood supply. When this has occurred, the skin-lined groove is converted into a skin tube. In most cases the cosmetic and functional results are good.

A report by Mustard[4] on 381 patients with carcinoma of the esophagus admitted to the Toronto General Hospital presents fairly typical survival statistics for this disease. Taking the whole group into account, regardless of the kind or completeness of treatment, over half of the patients were dead within six months; four out of five died within one year of admission; less than one out of ten lived as long as two years and only three out of a hundred survived five or more years. Of eight five-year survivors, five had lesions of the hypopharynx, two adenocarcinomas of the abdominal esophagus and only one had a squamous cell carcinoma of the intrathoracic esophagus.

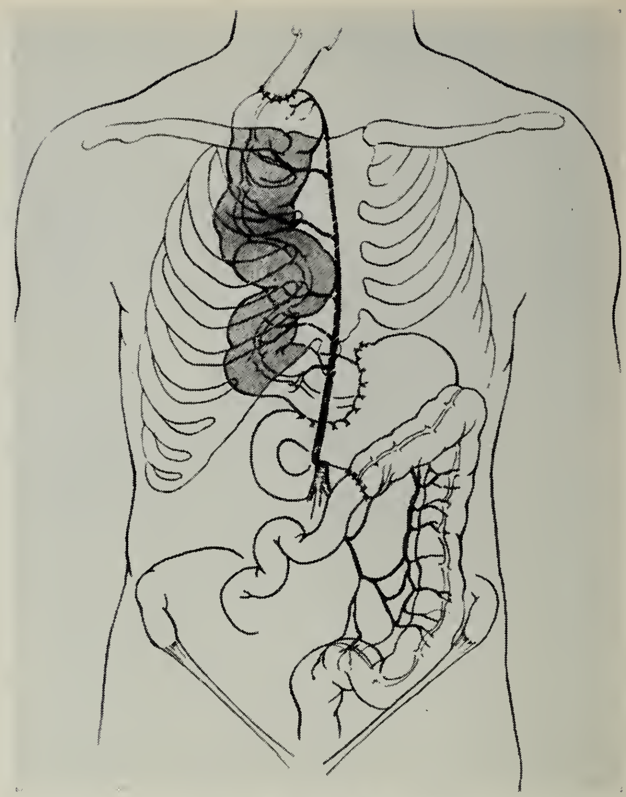


Figure 2.[6]—For by-pass of the esophagus by substernal transfer of the right colon, the right colon segment is brought up through a substernal tunnel into the neck where it is joined to the cervical esophagus. The lower end of the colon is joined to the anterior wall of the stomach. The blood supply to the mobilized segment is provided by the middle colic artery and vein.

There appears to be general agreement that carcinoma of the lower esophagus and adenocarcinoma arising in the cardiac end of the stomach and extending upward into the esophagus are primarily surgical diseases. Many observers believe that carcinoma elsewhere in the esophagus should be treated by radiation without any attempt to remove the tumor surgically. Mustard's[3] results in a limited number of cases in which the tumors were located between the base of the epiglottis and no lower than 4 cm below the cricopharyngeous muscle indicated that excision offers the best chance for prolonged survival.

Regardless of the low cure rates (Table 1) it must be admitted that the palliation of obstructive dysphagia and perhaps the prevention of ulcerating tracheo-esophageal fistula are worthwhile results of surgical operation. However, well-directed, deep x-ray therapy may provide equivalent palliation, particularly in the middle-third and upper-third lesions in patients who are debilitated or of advanced age. The possibility of improving the treatment of esophageal cancer of the epidermoid or anaplastic types by routine employment of radiation therapy before surgical exploration and excision is now being evaluated in a number of clinics.

Relief of the obstruction to swallowing in the inoperable case of carcinoma of the esophagus in which relief is not obtained by radiation therapy can be provided by several palliative procedures: Dilatation of the tumor-bearing area under direct esophagoscopic vision is one. Another is insertion of a plastic tube through malignant stricture or complete by-pass of the esophagus by substernal transfer of the right colon (FIG. 2) are available palliative maneuvers. As a rule the author prefers not to employ gastrostomy for feeding purposes, although some radiotherapists prefer that the patient be fed through a gastrostomy tube during the period of radiation therapy. In addition, patients with total esophageal obstruction who are receiving roentgen therapy may require gastrostomy until the obstruction is relieved by the radiation treatment.

SUMMARY

Carcinoma of the esophagus is a disease of relatively high incidence. The male particularly is likely to be stricken with this disease between the ages of 50 and 70. The diagnosis can be made easily and reasonably early if the physician to whom the patient first describes symptoms visualizes the esophagus by roentgenographic examination and the esophagoscope in every case in which there is complaint of dysphagia, no matter how slight this symptom. Carcinoma of the lower third of the esophagus and the cardiac end of the stomach are best managed by surgical excision or palliative resection. The Wookey procedure offers the best prognosis in a selected group of tumors involving the hypopharynx and adjacent few centimeters of the esophagus. The results of treatment of carcinoma involving the middle and upper thirds of the esophagus are poor whether surgical or roentgen therapy are utilized. The combination of preoperative radiation followed by surgical excision, if the latter is possible, may increase the number of five-year survivals in cases in which the carcinoma is located in the middle and upper thirds of the esophagus.

TABLE 1.—*Carcinoma of the Thoracic Esophagus and Cardia-Operative Mortality and Survival in Eight Large Series*[2]

Surgeon	Year of Report	No. Cases Resected	Operative Deaths	Number of Survivors Immediate	2-year	5-year
Garlock	1954	180	57	123	27	11
Wu	1955	152	28	124	24	6
Sweet	1956	327	57	270	83	24
Petrov	1957	123	62	61	....	6
Lortat-Jacob	1957	308	102	206	51	10
Nakayama	1959	953	56	897	151	35
Ellis	1959	245	39	206	....	20
Miller	1962	141	33	108	....	22
Totals		2,429	434	1,995		134
Per cent			17.8			5.5

384 Post Street, San Francisco, California 94108.

REFERENCES

1. Keith, H. B.: Carcinoma of the esophagus, A.M.A. Arch. of Surg., 80:434, 1960.

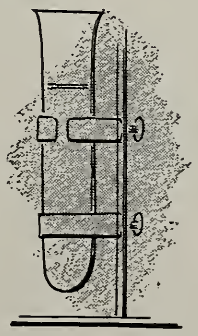
2. Lindskogg, G. E., Liebow, A. A., and Glenn, W. W.: Thoracic and Cardiovascular Surgery with Related Pathology, Appleton-Century-Crofts, New York, 1962. Modified from table on page 521.

3. Mustard, R. A.: The use of the Wookey operation for carcinoma of the hypopharynx and cervical esophagus, Surg., Gyn. & Obs., 111:577, 1960.

4. Mustard, R. A.: Selection of therapy for esophageal cancer, A.M.A. Arch. of Surg., 75:674, 1957.

5. Parker, E. F., Gregorie, H. B., and Hughes, J. C.: Carcinoma of the esophagus, Ann. of Surg., 153:957, 1961.

6. Watson, W. L., Goodner, J. T., Miller, T. P., and Pack G. T.: Torek esophagectomy. The case against segmental resection for esophageal cancer, Journal of Thoracic Surgery, 32:354, 1956.



CANCER STUDIES

Cancer of the Pancreas, Gall Bladder and Liver

VICTOR RICHARDS, *M.D.*, San Francisco

MODERN TREATMENT of tumors of the pancreas, gall bladder and liver was pioneered by Whipple with the introduction in 1935 of the new and radical operation, pancreatico-duodenectomy. At first operative mortality was high, but by 1945 radical operation for carcinoma of the pancreas, liver or biliary tree was a common, standard, reasonably-safe procedure. Indeed, a strong tendency existed to resect any and all movable tumors within the pancreas or liver, leading to the ingenious development of techniques for the bridging of defects in the portal vein occasioned by surgical trauma, and dramatic resections of the right or left lobes of the liver. Indeed, technique often triumphed over judgment and the operating surgeon would labor for hours only to find himself within a few millimeters of cancerous tissue in crucial areas, yet unreasonably radical in the removal of vital organs in areas far removed from the neoplastic process. Results from these procedures were oftentimes unsatisfactory from the standpoint of comfort, palliation and survival. An occasional patient, however, greatly benefited for a long period from a radical surgical procedure, and in the past few years more realistic and effective approaches to treatment have been elucidated. It is particularly appropriate at this time, approximately a quarter of a century after the classic report of Whipple, to review the current status of tumors of the pancreas, bile passages and liver.

TUMORS OF THE PANCREAS

Classification

A simple classification of pancreatic tumors which can be correlated with clinical findings and give a basis for comparisons of treatment is shown in Table 1.

Incidence

Cancer of the pancreas affects patients in the middle and later years of life. It accounts for about 1 to 2 per cent of all malignant lesions and is four times as common in males as females. No causative factors are known. It is most commonly seen in natives of Uganda (South Africa), and may appear more often in diabetic than in non-diabetic patients.

General Clinical Symptoms

Jaundice, pain and loss of weight are the classical clinical features of cancer of the pancreas. Cancers of the head and peri-ampullary region produce jaundice almost invariably. Cancers of the body and tail of the pancreas are associated with pain and loss of weight as the predominant clinical features. Loss of weight, asthenia, impaired or sluggish digestion, gaseous distention and "boring" abdominal pain, often radiating to the left flank and the back, are common. Two additional symptoms and signs are worthy of special mention: (1) unexplained venous thrombosis or thrombophlebitis, and (2) unexplained chronic anemia with loss of weight from mild but continued gastrointestinal bleeding. Steatorrhea from loss of pancreatic enzymes in the bowel is rare, but diarrhea occurs in about one-third of the cases.

The islet cell tumors of the pancreas and ulcerogenic tumors of the pancreas and duodenum present special clinical features which will be discussed separately.

Metastasis occurs to the regional lymph nodes around the hepato-duodenal ligament and aorta. Metastasis to the liver, ascites and supraclavicular lymph node enlargement indicate a hopeless phase of

TABLE 1.—***Classification of Pancreatic Tumors***

	Per cent located at site
Carcinoma of the head and peri-ampullary region	70 to 75
Carcinoma of the head of the pancreas	40
Ampulla of Vater	35
Duodenum	15
Common bile duct	10
Carcinoma of the body of the pancreas and the tail	15 to 20
Islet-cell tumors of the pancreas	5 to 10
Benign adenomas	60
Carcinomas	40
Ulcerogenic tumors of pancreas or duodenum	5
Other rare benign tumors of pancreas (fibromas, lipomas, chondromas, angiomas, etc.)	<1

From the Department of Surgery, Presbyterian Medical Center, San Francisco.

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the disease. Diabetes mellitus occurs in 5 to 10 per cent of cases.

General Clinical Signs

Jaundice, progressive, persistent and unrelenting, is the classical clinical sign of pancreatic carcinoma. It is invariably present in carcinoma of the head and peri-ampullary region, with the exception of lesions of the duodenum proper. Hepatic enlargement accompanies the jaundice, but is not striking unless cholangitis is present or metastasis to the liver has occurred. The gall bladder is enlarged in all cases of neoplastic obstruction of the biliary tract, but it is palpable in only 30 per cent of cases. An enlarged non-tender gall bladder in a jaundiced patient may be taken as a reliable sign of malignant choledochal obstruction (Courvoisier's law), but no diagnostic inference is justified if the gall bladder is not palpable.

Evidences of loss of weight and chronic pain generally accompany all stages of the disease. Anemia is not uncommon. Carcinoma of the body and tail of the pancreas tend to compress the superior mesenteric or splenic veins, and gastrointestinal bleeding, splenic vein thrombosis and splenomegaly occur particularly with cancers in these areas. Spontaneous venous thrombosis in the legs with unexplained loss of weight and anemia should arouse clinical suspicion of cancer of the body or tail of the pancreas. Liver enlargement of a nodular character, ascites and supraclavicular lymph node enlargement are signs of metastatic disease.

The clinical signs unfortunately appear rather late in the disease. The abundance of pancreatic acinar tissue and the access of pancreatic enzymes to the intestinal tract through multiple ductile channels mask the signs of pancreatic insufficiency. Jaundice and acholic stools appear long before the greasy, bulky and pultaceous stools of pancreatic insufficiency. Jaundice, abdominal pain and loss of weight are the first clinical signs to appear, but again are not early manifestations in the total history of the disease.

Laboratory Data

Abnormal laboratory findings also appear rather late in the course of the disease, and characteristically are those of progressive and persistent obstructive or regurgitant jaundice. Bilirubinemia, choluria and clay-colored putty-like stools are typical of obstructive jaundice. Disturbed liver function tests follow, and the alkaline phosphatase may be elevated, the thymol turbidity and cephalin flocculation tests indicative of varying degrees of liver damage. Since bile salts are necessary for the absorption of vitamin K, hypoprothrombinemia develops commonly after prolonged biliary obstruction.

Recently, efforts have been made to diagnose pancreatic cancers earlier by special laboratory studies, but unfortunately the functional capacity of the remaining pancreatic cells makes these diagnostic studies unreliable. The special studies include: (1) blood sugar determination, glucose tolerance tests or determination of glycosuria (which prove abnormal in about 40 per cent of the cases); (2) serum levels of pancreatic enzymes such as trypsin, trypsin-inhibitor, amylase, plasma carotene, plasma antithrombin and paritol-C and serum glutamic oxalacetic transaminase (SGO-T); (3) hepatic function tests, such as determination of serum alkaline phosphatase and serum bilirubin levels, and the measurement of retention of rose Bengal dye or bromsulphthalein dye by the liver.

Combined Cytologic and Secretory Diagnosis of Pancreatic and Biliary Carcinoma

Duodenal intubation can be done quickly and easily, and the hope is that a combined study of duodenal aspirate by cytologic techniques and analysis of duodenal enzymes will lead to an early and accurate diagnosis of pancreatic cancers. Unfortunately, the tests are reliable in only about 50 per cent of cases. A positive result of exfoliative cytology is significant, but not a negative result. The volume of pancreatic secretion may be diminished from duct obstruction and duodenal enzymes may be reduced, particularly after secretin administration to stimulate pancreatic secretion into the duodenum, but the diminished volume of pancreatic secretion and decreased bicarbonate and enzyme content are not highly reliable diagnostic adjuncts. The clinical features of the disease and its common laboratory abnormalities generally indicate the need for exploratory laparotomy without reliance on special studies.

Radiologic Examination

Abnormal radiologic findings will be present in either the duodenal loop or stomach in approximately 50 per cent of the cases. Widening of the duodenal loop, anterior displacement of the stomach, disturbed mucosal patterns in the duodenal loop, and the "reverse 3 sign" or "epsilon sign" in the second portion of the duodenum are the roentgen signs usually detected. Duodenitis, pancreatitis and pancreatic cysts may mimic pancreatic carcinoma in x-ray studies. Yet gastrointestinal films should always be taken.

Cholecystography and intravenous cholangiography are generally of little or no avail in the diagnosis of pancreatic cancers. Visualization is normal in the absence of jaundice and absent in the presence of clinical jaundice. Percutaneous transhepatic cholangiography may be helpful when simpler methods fail to distinguish between obstructive and non-ob-

TABLE 2.—*Summary of Clinical Features and Laboratory Findings in Cancer of the Pancreas*

	Cancer of Ampulla	Cancer of Bile Ducts	Cancer of Head	Cancer of Body and Tail
Pain	present 40% mild	present 60% mild	present 85% moderate	present 100% severe
Jaundice	early progressive	early progressive	variable progressive	absent or late mild
Loss of weight prior to jaundice	minimal	minimal	mild	pronounced 10 to 40 lb.
Fever, chills	20%	10%	none	low-grade chronic
Hepatomegaly	none	rare	moderate	moderate to huge, if metastases
Palpable gall bladder	40%	30%	40%	0%
Splenomegaly	none	none	none	rare
Bile in stools	absent 80%	absent 90%	absent 100%	present
Occult blood in stools	50%	10%	10%	rare until late

structive jaundice, and probably deserves wider use; but it is not always successful and occasionally results in serious bile peritonitis.

Splenoportography and retroperitoneal pneumopancreatography are rarely of value in the diagnosis of pancreatic tumors. By the time these procedures might be helpful, exploratory laparotomy is already indicated.

Differential Diagnosis

When the patient is not jaundiced, diagnosis is difficult and in the initial stages the patient is often considered psychoneurotic. Persistent pain and progressive loss of weight with negative radiologic findings of the alimentary, biliary and renal tracts should raise suspicion of pancreatic cancer. Duodenal aspiration with search for neoplastic cells in the cellular sediment may yield a proper diagnosis.

In jaundiced patients, other causes of obstructive jaundice, such as common duct stone and stricture, and all causes of hepatocellular or hepatocanalicular jaundice must be considered. A palpable gall bladder strongly suggests neoplastic obstruction of the common duct, but it must be emphasized that the combination of jaundice and a palpable gall bladder occur in only 30 per cent of patients with resectable pancreatic tumors. The differential diagnosis of jaundice is notoriously difficult, and in many cases the issue can only be settled by surgical exploration of the abdomen. Needle biopsy of the liver may be used in an effort to distinguish surgical (obstructive) from non-surgical (hepatocellular or hepatocanalicular) jaundice, but it carries a mild risk from bleeding due to the associated hypoprothrombinemia and may not yield enough tissue for the average pathologist.

Exploratory laparotomy is oftentimes necessary to establish a definite diagnosis and to initiate adequate therapy. It should be advised within three weeks or at the most four weeks after the onset of jaundice, if the cause of the jaundice is not entirely clear after that period of observation and treatment.

The clinical features and laboratory findings in cancer of the pancreas are summarized in Table 2.

The Role of Exploratory Laparotomy

Laparotomy should be considered in any case of jaundice in which the diagnosis cannot be clearly established within three weeks of onset in a patient of middle years or older. Laparotomy is strongly indicated in all cases of jaundice in which diagnostic and therapeutic measures have not succeeded after four weeks of jaundice.

Exploratory laparotomy should be considered as a diagnostic adjunct in patients of middle years and beyond who have unexplained abdominal pain and weight loss that is progressive with negative radiological studies of the alimentary, biliary and renal passages. Hypercalcemia hyperlipemia, porphyrin disease, macroglobulinemia and metastatic malignant disease should be carefully excluded before laparotomy, however.

Differential Diagnosis During Abdominal Exploration

The results from radical pancreatic resection are good in carcinomas of the ampulla of Vater, bile duct carcinoma and duodenal carcinomas. They are much poorer in carcinoma of the head of the pancreas. A good result entails five-year survival of 35 to 40 per cent; a poor result a five-year survival of 5 to 7 per cent. It is important therefore, to distinguish the nature of the pancreatic carcinoma at the time of laparotomy. Radical pancreatico-duodenectomy is warranted for carcinomas of the ampulla of Vater, bile duct or duodenum; but, radical resection in cases of carcinoma of the head and body of the pancreas should be reserved for early, favorable and truly resectable cases in which all visible and palpable tumor can be removed with a safe margin around all areas of the tumor. Involvement of regional lymph nodes and adherence to the portal or splenic vein are factors against favorable results even though resection is technically feasible. Extending operability by resection of the portal vein or violating sound precepts of cancer surgery merely to remove a tumor inadequately and incompletely is ill-advised, for life is not prolonged and better palliation can be achieved by simpler procedures, such as cholecystoduodenostomy, cholecystogastrostomy or cholecystoenterostomy, which reestablish the flow of bile into the intestinal tract.

At laparotomy the head of the pancreas and duodenum are first mobilized, permitting careful palpation on all aspects of the structures. Primary carcinoma of the head of the pancreas is characterized by a dilated common duct which is thin-walled and bluish. The gall bladder is distended, no stones are palpable in it or in the common duct, and a tumor mass can be felt in the vicinity of the head of the pancreas. The margins of the tumor are indistinct but immediately beyond the medial limit of the tumor the duct of Wirsung is palpable in the neck and proximal body of the gland. The dilatation of the duct of Wirsung is present in 80 per cent of the cases of carcinoma of the head of the pancreas, and the dual dilatation of the thin, distended common duct and dilated duct of Wirsung is pathognomonic of carcinoma of the head of the pancreas, a lesion with poor prognosis even if radical pancreatico-duodenectomy is technically possible. Involvement of the portal vein, extension to regional lymph nodes and spread to peri-pancreatic structures denote inoperability, and bile flow should be restored to the intestinal tract by anastomosis of the gall bladder or common duct to either the stomach, the duodenum or the jejunum. The average survival after palliative operation is approximately 11 months, but equals the survival after inadequate radical pancreatico-duodenectomy yet entails considerably lower morbidity and mortality.

Carcinoma of the ampulla of Vater produces a dilated thin-walled common duct, but only in 20 per cent of the cases is the duct of Wirsung obstructed with a palpable dilatation of this pancreatic duct. Furthermore, after mobilization the tumor can be felt along the medial wall of the duodenum rather than in the head of the pancreas. The extension along the medial wall of the duodenum produces a marble-like hardening along the course of the duodenal lumen medially.

Carcinomas of the bile duct, whether located just above the duodenum or in the intrapancreatic portion of the distal common bile duct, produce the same extrahepatic biliary tract signs of a dilated thin-walled common duct, but these tumors do not obstruct the duct of Wirsung, nor do they produce a mass which projects into the duodenal lumen or infiltrates along the medial duodenal wall. A dilated gall bladder, the absence of stones within the biliary tree with a thin-walled dilated common duct, and a tumor just above the ampulla of Vater not obstructing the duct of Wirsung complete the gross pathological picture of carcinoma of the bile duct.

Carcinomas of the duodenum are rarely difficult to diagnose, for they encircle the duodenum and often have a large central ulceration. If large, they may obstruct both the common bile duct and the duct of Wirsung, but the tumor can be palpated in the duodenal lumen rather than in the pancreatic head.

Chronic pancreatitis may simulate carcinoma of the pancreas, but generally in pancreatitis the common duct is not greatly dilated, jaundice is mild, and the common duct and peritoneum overlying the duct are pale and thickened, not thin and bluish. Indeed, identification of the common duct may be difficult because of the associated inflammatory process around the head of the pancreas.

A stone impacted in the distal common duct produces edema and induration in the head of the pancreas. The gall bladder is generally not distended and most often other stones are palpable within it or the common duct. The duct of Wirsung is not obstructed unless a large hard inflammatory mass has developed. Rarely, peptic ulceration of a benign type occurs at the level of the ampulla of Vater or distal to it, and is not often confused with carcinoma.

The Role of Biopsy in Diagnosis

Biopsy of the pancreas *per se* is generally an unsatisfactory procedure. The use of the Silvermann needle is recommended by some investigators, but generally it is unsatisfactory. Direct biopsy of the pancreas carries some danger from injury to the pancreatic ductile system with subsequent pancreatitis, and it, too, is difficult and unsatisfactory. It carries the risk also of spreading the tumor.

Lesions of the ampulla of Vater and duodenum are best visualized and biopsy carried out directly through a duodenotomy incision. Lesions of the distal common duct are best approached for biopsy through a transverse incision in the common duct at the level of future transection of the duct in the event of a pancreatic resection. From within the bile duct a small scoop can obtain a biopsy specimen suitable for diagnosis and also eliminate the possibility of a stone being impacted in the distal ampulla. The combined exploration from the common duct above and from within the duodenum below offers the best approach to biopsy of resectable carcinomas. The carcinomas of the head of the pancreas are best recognized by the gross findings described above, and if the lesion is operable the surgeon may proceed with pancreatico-duodenectomy without preliminary biopsy. Statistically, errors will be made on this basis in approximately 3 per cent of the cases, that is, the lesion in the head of the pancreas will be inflammatory rather than neoplastic.

Contraindications to Radical Operation

Four findings contraindicate radical pancreatico-duodenal resection: (1) distant metastasis, (2) local spread beyond the limits of a resection with adequate margins around the tumor, (3) involvement of the superior mesenteric or splenic vessels, and (4) invasion and involvement of the portal vein.

The prognosis in cases of carcinoma of the ampulla of Vater, malignant tumors arising in the intrapancreatic portion of the common bile duct and carcinomas of the duodenum is more favorable, and pancreatico-duodenectomy is the preferred treatment in this group. Carcinoma of the head of the pancreas has a much poorer prognosis, and resection should be reserved for truly operable situations.

Palliative Operative Procedures

Carcinomas of the pancreas obstruct first the biliary and pancreatic duct, and later the duodenum. Palliative procedures, therefore, include anastomosis of either the gall bladder or dilated common bile duct to either the stomach, the duodenum or the upper jejunum as the prime procedure. Oftentimes a dilated duct of Wirsung can also be joined to a jejunal loop in a side-to-side fashion to relieve pancreatic duct obstruction, but this is not as important as relief of biliary obstruction. If the size of the tumor suggests duodenal obstruction will soon follow, gastro-enterostomy is indicated, and the cholecysto-anastomosis or choldedocho-anastomosis should not be made to the duodenum but rather to the stomach or jejunum.

Radical, Possibly Curative, Operative Procedures

Resection of the distal half of the stomach, all the duodenal loop including the head of the pancreas and the regional lymph nodes constitutes a pancreatico-duodenectomy, a definitive resection of the carcinoma, with a chance for cure of the cancer. Reestablishment of continuity of the biliary tract to the jejunum is mandatory; gastro-jejunal anastomosis is necessary for alimentary continuity, and anastomosis of the pancreatic duct into the upper jejunum is advisable but not mandatory. The preferable sequence in anastomosis seems to be to re-implant the bile duct and pancreatic duct into the jejunum proximal to the gastro-jejunostomy, so that the gastro-jejunal anastomosis will be bathed in the alkaline bile and pancreatic juices, and regurgitant cholangitis will be less likely to occur. However, surgeons differ widely in their methods of reestablishing the flow of bile, pancreatic and gastric juices into the jejunum. Indeed, many surgeons prefer not to reanastomose the divided pancreatic duct at all, saying that the incidence of pancreatic fistula is reduced postoperatively by ligation of the pancreatic duct and that absence of pancreatic enzymes in the bowel is not disturbing. I prefer to join the divided end of the pancreas to the divided end of the jejunum, leaving a small polyethylene cannula in the pancreatic duct, then re-implant the end of the common duct into the side of the jejunum a few centimeters distal to the pancreatic anastomosis, and follow with a gastro-enterostomy some 20 centimeters or more distal to the choledocho-jejunal anastomosis. The incidence of postoperative gastro-jejunal ulcer seems more related to the inadequate gastrectomy than to the absence of alkaline bile and pancreatic juices at the anastomotic site. Recently, more extensive gastric resection has been advocated with the pancreatico-duodenectomy in an effort to prevent postoperative gastro-jejunal ulceration; also, vagotomy has been added to the operation.

Complications of Radical Pancreatico-Duodenectomy

Pancreatic fistula formation or bile fistula formation constitute the immediate posoperative hazards surgically. Some surgeons prefer to ligate the divided pancreatic duct and oversew the end of the pancreas rather than to re-do the anastomosis of the pancreas to the bowel in an effort to avoid this complication. The incidence of diabetes mellitus, and pancreatic acinar insufficiency postoperatively may be increased, but only slightly, by failure to reestablish anastomosis of the pancreas to the bowel.

The later surgical complications, aside from recurrence of cancer include diabetes mellitus, malabsorption syndromes with pancreatic acinar insufficiency, and jejunal ulceration at the gastro-jejunal stoma.

Diabetes mellitus is not severe. The pancreatic acinar insufficiency may be improved by the ingestion of viokase, a pancreatic supplement, 0.6 gm every 2 hours from 7 a.m. to 7 p.m., and the jejunal ulceration may be prevented by more extensive gastric resection at the time of pancreatico-duodenectomy or by accompanying vagotomy.

Failure to cure the pancreatic cancer is the major postoperative complication.

Mortality

Radical pancreatico-duodenectomy carries a mortality rate of 12 to 20 per cent in best surgical centers. Palliative operation with relief of biliary obstruction carries a mortality rate of less than 5 per cent. Efforts have been made to reduce the mortality from radical operation by performing two-stage procedures, relieving the jaundice at the first stage by cholecysto-jejunostomy or choledocho-jejunostomy, and performing the resection of the tumor at the second stage. This has not proved successful, and the majority of surgeons now favor a one-stage procedure except in very poor risk patients.

The causes of death after pancreatic resection are, in the order of frequency: Fistula formation with bile or pancreatic peritonitis, hemorrhage related to anastomotic leaks, renal failure, coronary and cerebral lesions, or liver necrosis. It seems unlikely the operative mortality will be reduced below 10 to 15 per cent in pancreatic resection.

Results

If not treated, patients with pancreatic cancer generally die within two or three months after the onset of jaundice.

The average survival after palliative operation for cancer of the head of the pancreas is 11 to 14 months.

Pancreatico-duodenectomy yields the following five-year survival results: (1) carcinoma of the head of the pancreas—5 to 8 per cent; (2) cancer of the ampulla of Vater—35 per cent to 40 per cent; (3) cancer of the distal bile ducts—35 per cent to 40 per cent, and (4) cancer of the duodenum—40 per cent. Clearly, for cancers of the head of the pancreas, radical operation should be carried out only if the lesion is readily removable, but the range of operability is broader in cancers of the ampulla, duodenum and distal bile ducts.

A search for methods of therapy more successful than surgical operation is strongly indicated. However, irradiation, chemotherapy and intrapancreatic injections of colloidal isotopes have not proved satisfactory, and at present offer less palliation than operation and less likelihood of more enduring arrest of the cancer. Cancers of the body and tail of the pancreas are unfortunately rarely operable, but again should be approached surgically. Total pancreatectomy can be carried out, if necessary, with a mortality rate of approximately 35 to 40 per cent. Diabetes mellitus can be controlled after total pancreatectomy, surprisingly with about 20 to 40 units of insulin daily, and the disturbances in carbohydrate, fat and liver metabolism can be compatible with survival under diligent medical treatment with diet, pancreatic acinar substitutes such as viokase, and possibly lipocaic, another possible pancreatic hormone. This heroic procedure, however, should be reserved for the very rare truly operable case.

ISLET-CELL TUMORS OF THE PANCREAS

It is beyond the scope of this review to discuss in detail islet-cell tumors of the pancreas, but a brief note must be made that 25 to 30 per cent of such tumors may be malignant and may metastasize. They tend to occur in persons under 50, and oftener in males than females.

Pathological Classification

Islet-cell tumors may be classified on the basis of clinical and pathological features as follows:

1. Adenomas of the islet-cells without hypoglycemia.
2. Adenomas of the islet-cells with hyperinsulinism.
3. Metastasizing carcinomas of islet-cells without hypoglycemia.
4. Metastasizing carcinomas of islet-cells with hypoglycemia.
5. Borderline malignant islet-cell tumors with or without hypoglycemia.

Clinical Features

The generally accepted criteria of functioning islet-cell tumors consist of the so-called Whipple's triad:

1. Spontaneous hypoglycemia accompanied by central nervous, psychiatric or vasomotor system symptoms—fainting, sweating, convulsions, collapse, etc. These attacks come during periods of exertion or after fasting.
2. Blood sugar persistently less than 50 mg per 100 ml during an attack or after a period of fasting.
3. Relief of symptoms by the oral or intravenous administration of glucose.

The other causes of hypoglycemia must be eliminated by appropriate physical signs and laboratory examinations. These include hepatic disease, pituitary hypofunction, adrenocortical hypofunction, and functional hypoglycemia related to renal glycosuria, overwork, diet, pregnancy and lactation.

The malignant tumors not associated with hypoglycemia present as an abdominal mass with weight loss. Diagnosis is established by laparotomy.

Differential Diagnosis

Liver function tests, adrenal function tests, including eosinophil counts, 17 ketosteroid and 11 oxysteroid determinations, ACTH stimulation and decadron suppression tests, x-ray films of the skull and visual field studies rule out hepatic, adrenal and pituitary causes of hypoglycemia.

Adrenal tolerance, glucose tolerance and insulin tolerance tests are valuable but not infallible. Recently, leucine and tolbutamide (Orinase) have been shown to produce a prolonged and profound hypoglycemia in patients with insulinomas but not in patients with other forms of hypoglycemia. The leucine is given orally in a dose of 150 mg per kg of body weight; the tolbutamide is given intravenously in a dose of 1 gram.

Hypoglycemia is occasionally found in certain retroperitoneal tumors.

Treatment

Surgical exploration is indicated. The insulinomas are removed if easily identified. If an easily resectable tumor cannot be found, the tail and body of the pancreas can be resected, for these tumors are often small. If the resected specimen fails to show a tumor and hyperinsulinism persists, total pancreatectomy may be necessary at a second operative procedure. Extrapancreatic sites of insulinomas have been reported, and should be searched for in the usual sites of pancreatic heterotopia. Similarly, retroperitoneal tumors should be excluded at the time of laparotomy.

The non-insulin producing tumors should be resected as for carcinoma of the pancreas in general.

ULCEROGENIC TUMORS OF PANCREAS AND DUODENUM

Zollinger and Ellison in 1955 described the association of non-insulin producing (non-beta cell) tumors of the pancreas and progressive peptic ulceration. These tumors are rare in either the pancreas or duodenum. They should be mentioned for they behave like malignant, metastasizing but small pancreatic cancers, and they require special treatment, preferably on the stomach. The lesions may be multiple, benign adenomas or malignant and metastasizing carcinomas of small size in either the pancreas or duodenum. They look like insulinomas but are non-beta cell in origin.

Clinical Features

The clinical features are those of malignant recurrent peptic ulcer disease. The ulcers are often located atypically in the jejunum or second and third portion of the duodenum. They commonly appear after gastric operations. Hypersecretion of gastric acid invariably accompanies these lesions, presumably from the elaboration of a gastrin-like substance from them. The 12-hour basal gastric secretion often exceeds 100 mEq of hydrochloric acid and the volume of gastric secretion produced is large. Diarrhea is a common associated clinical feature of these tumors.

Treatment

Total gastrectomy seems the treatment of choice, for these tumors are often multiple and hard to remove locally. Recurrent ulceration of the stomach follows even extensive subtotal gastrectomy, with or without vagotomy. The localized adenomas within the duodenum may be resected locally. The malignant adenomas in the duodenum require pancreaticoduodenectomy. In this regard the duodenal ulcerogenic tumors behave differently from the pancreatic ulcerogenic tumors, for the latter rarely respond to local removal of the ulcerogenic foci.

CARCINOMA OF THE GALL BLADDER

Carcinoma of the gall bladder is extremely rare in the absence of gall stones. It is felt to occur in about 2 per cent of all patients having gall stones if the stones go untreated for a number of years. Women are more affected than men, and it is rapidly fatal once it has spread beyond the confines of the gall bladder proper.

Clinical Features

Pain, jaundice, and recent loss of weight comprise the clinical picture in the majority of cases. It should be particularly suspected in (1) patients in the older age group whose biliary tract symptoms are less than six months' duration, (2) patients with a long history of biliary tract disease with a sudden change of symptoms or increase in severity of attacks. In the majority of patients, however, it is an incidental discovery at the time of laparotomy.

Treatment

Cholecystectomy is the treatment of choice. If the carcinoma has spread beyond the gall bladder proper, the prognosis is extremely poor and the majority of patients are dead within a year. There is about a 5 per cent five-year survival rate in this disease.

Prevention is the treatment of choice. This requires cholecystectomy early in the course of the disease in an otherwise healthy good risk patient with cholelithiasis. Fortunately, repeated bouts of biliary colic and repeated bouts of cholecystitis generally bring the patient to accept operation for more urgent and common reasons.

BENIGN TUMORS OF THE GALL BLADDER

Adenomas, papillomas and adenomyomas are the commonest benign tumors of the gall bladder. Non-invasive carcinomas and fibroadenomas are much less frequent. The clinical manifestations of these lesions are not typical, but they are commonly associated with gall stones and produce symptoms accordingly. Gaseous indigestion and vague upper abdominal pains may lead to cholecystographic examination and disclosure of the lesion. The cholecystogram shows a fixed radiolucent defect.

Treatment

No definite proof exists that these lesions are premalignant. Nevertheless, the consensus of surgical opinion favors cholecystectomy as the treatment of choice when there is no contraindication to the operative procedure.

NEOPLASMS OF THE LIVER

The left lobe of the liver can be easily and readily resected. The right lobe of the liver can be resected with great difficulty and high mortality as an occasional technical feat requiring skill and refined judgment. A brief classification of tumors of the liver is, therefore, warranted, although surgical removal of tumors of the liver is rare.

Classification

Benign tumors—Adenomas of liver cells or bile ducts; hemangiomas, lymphangiomas, myomas, teratomas.

Malignant tumors—Primary: carcinoma of liver cell (hepatoma), bile duct (cholangioma) or mixed-cell types; sarcomas. *Secondary*: any and all metastatic tumors.

Clinical Features

There are no characteristic symptoms or signs. The symptoms are due to loss of weight, size of the lesion, compression of contiguous structures, etc. Metastatic tumors are by far the commoner group. Cirrhosis is commonly associated with a hepatoma or cholangioma as a primary disease.

Treatment

Easily resectable tumors are best treated by surgical methods. The left lobe can be resected easily, if necessary. Resection of the right lobe is rarely indicated.

Presbyterian Medical Center, Clay and Webster streets, San Francisco, California 94115.

REPORTS FROM THE Scientific Board

CHOLESTEROL

Current Status in Atherosclerosis and Coronary Heart Disease

It is now established that, in unselected American population groups, persons having high blood levels of cholesterol (and other lipids and lipoproteins) have an increased risk of subsequent development of one sequela of atherosclerosis: coronary heart disease. This has been shown in studies carried out by the United States Public Health Service in Framingham, Massachusetts, and elsewhere. This does not mean that a person with a low blood cholesterol level will not develop coronary heart disease at any time in his life. It means simply that the level of cholesterol in the blood is one significant risk factor. There are many other factors such as relative weight, blood pressure, personality type and heredity, which are regarded as known; it can be reasonably assumed that there are still others which are unknown.

It has *not* been shown that reduction of cholesterol levels can prevent or delay the onset of atherosclerosis or coronary heart disease in man. Work in experimental animals, however, has shown that procedures leading to elevated blood cholesterol levels can lead to atherosclerosis of a type resembling that observed in man, including coronary arterial disease—except that the fibrotic stage—thrombosis—and large myocardial infarcts are uncommon. In addition, it is known that population groups having low levels of blood cholesterol also have a low rate of development of coronary heart disease. These facts, taken together, have led to the hypothesis that reduction of serum cholesterol and other lipids and lipoproteins will reduce the incidence of coronary heart disease in populations, such as ours, in which the levels are relatively high. Testing the validity of this hypothesis will be an extremely difficult procedure, but a start has been made, and it is possible that useful information will be available in the next few years.

Cholesterol is carried in the blood plasma in the form of large molecular complexes known as lipoproteins. In man the largest percentage of cholesterol is carried in lipoproteins having a density of about 1.03 (that is, low density or beta lipoproteins), but it can be found in significant amount in other lipoprotein fractions including the higher density alpha lipoproteins. Other larger lipoproteins, of density about 0.98, carry most of the fat or triglycerides in the blood. The concentration of beta lipoproteins is elevated in subjects with coronary heart disease, and conversely that of the alpha lipoproteins is diminished. As mentioned above, epidemiological studies have implicated cholesterol and, consequently, *low density lipoproteins* as risk factors in the development of this disease. The risk related to high levels of triglycerides, total lipids and phospholipids has not yet been established or shown to be significant by comparable epidemiologic investigations.

Since lipids have been implicated in atherogenesis, experimentally and pathologically, and since they are only one of many factors etiologically concerned that can be manipulated with facility, it seems logical to attempt to reduce the incidence and progress of the disease by dietary management. However, reduction of the intake of fat in the diet can affect cholesterol and triglycerides differently. Diets which are low in fat (and necessarily high in carbohydrate) tend to reduce the concentration of cholesterol in the blood but to elevate that of triglycerides. Diets rich in poly-unsaturated fatty acids tend to reduce the concentration of cholesterol and have little effect on the triglycerides. The amount of cholesterol in the diet can, in some circumstances, increase the level of cholesterol in the blood with no effect on triglycerides. While there has been no proof that lowering the blood lipids has a beneficial effect on the atherogenic process, there is considerable evidence to show that decreased lipids and calories in the diet can reduce blood lipids to a varying degree.

Measurements of the concentration of practically all lipids including cholesterol, total lipids, phospholipids, triglycerides and lipoproteins in the blood plasma are generally available as routine laboratory procedures. The physician should place confidence in only those methods which have been shown to fulfill the criteria of accuracy (specificity) and precision (reproducibility) supported by good quantity control. It should be emphasized, however, that the significance of cholesterol and other blood lipid levels has not been established to the same degree for the individual as for the group.

A statement from the Committee on Scientific Information of the Scientific Board, California Medical Association.

California
MEDICINE

For information on preparation of manuscript, see advertising page 2

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EDITORIAL

An Exciting Scientific Program

IN THIS ISSUE, beginning immediately following Page 144, the program for the 93rd Annual Session of the California Medical Association is printed. It merits the attention of all our readers, for it represents the first great concerted effort of the Scientific Board which was formed a year ago to press forward the scientific and educational functions of this association and, where possible, to coordinate them with related interests of other medical organizations in our region.

This first program under the auspices of the Scientific Board, arranged by its Committee on Scientific Assemblies, is a development in the direction of meetings of the federated type by which it is hoped to draw together the divergent and fragmented special interests in medicine.

Outstanding guest speakers will address the three general meetings, which are built on the general theme of immunology, and will take part in panel discussions on various aspects of the subject. In addition some of them will take part in the programs of the various scientific sections.

In forming the program, the Committee worked with the officers of the Section on Obstetrics and Gynecology, the Section on Pediatrics and the Section on General Practice to supply speakers for their joint meeting on immunology.

The Sections on Internal Medicine and on Allergy joined forces with the California Chapter of the American College of Chest Physicians, the California Thoracic Society and the California Society of Allergy to obtain additional out-of-state speakers of note and to prepare an outstanding joint meeting for allergy and internal medicine.

In addition, the Section on Internal Medicine worked jointly with the California Society of Internal Medicine in preparing the program for the section.

The California Division of the American College of Obstetrics and Gynecology cooperated with the Section on Obstetrics and Gynecology in sponsoring a joint luncheon meeting utilizing one of the official guest speakers provided by the Committee on Scientific Assemblies.

Closed circuit television programs originating from the University of California at Los Angeles Medical Center will be shown in a large meeting room in the Biltmore Hotel, where each program will have a moderator and a panel of discussants. One of the scheduled programs, closely linked to the theme of the meeting, is to be a live telecast of a renal homotransplantation procedure.

An extensive program of high quality medical motion pictures is scheduled for the afternoons of all four days of the meeting. These programs also will be presided over by moderators.

All in all, the coming Annual Session has in it a great deal to excite the minds of members of a profession and of an association whose first aim is the advancement of the science and the effective practice of medicine.

Malcolm H. Merrill, M.D.

PHYSICIANS THROUGHOUT California and many across the nation were cheered with the recent announcement of the reappointment of Doctor Malcolm H. Merrill as director of the Department of Public Health, State of California.

The California Medical Association and its Council join in applauding this appointment, which is eminently warranted and which promises to retain in this post for another four years a man who has compiled an outstanding record in public health.

Malcolm Merrill has served as director of the State Department of Public Health for ten years. He has served under appointments by both Republican and Democratic governors, a fact compatible with the nonpolitical nature of his responsibilities and indicative of the value of his services in the eyes of the state's top executives.

In addition to his services in California, Doctor Merrill has distinguished himself in national and international health circles. He has been active for some years in the American Public Health Association, which in 1959 selected him as its president and named him on the selection committee for the Bronfman Award, a highly valued honor conferred for outstanding public health services in America. In foreign fields he has been chosen on numerous occasions by the federal government and by the World Health Organization to participate in or to head public health missions and surveys in some of the less enlightened nations of the world. Only recently he returned to California from one of these assignments which took him to India, Pakistan, and other far east countries.

On his home ground he has consistently displayed a strong desire to remain in close and constant touch with the practice of medicine and with the medical profession as a whole. In this attitude he has regularly attended meetings of the C.M.A. Council, has asked the Council's opinion on projects under consideration and has freely sought consultation on matters where the views of practicing physicians are valuable to him and his department. He has made sure that consulting bodies which may influence policy decisions in the state's public health programs retain touch with the private physicians and have access to their views.

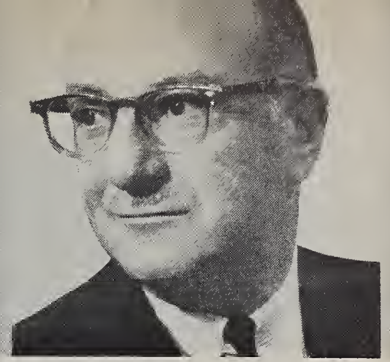
The State of California is fortunate to have a physician of this calibre in this important post. Our congratulations are extended to him, together with a renewal of the oft-repeated offer of all possible assistance and cooperation. Our congratulations and thanks also go to Governor Brown for his wisdom in making this reappointment and retaining for the state the services of Malcolm Merrill.

93rd Annual Session

Program

follows page 144

The President's Page



The Press—Neither Friend nor Enemy

During my year in the presidency I have had many an opportunity to learn at first hand something of the way news of medicine and of the profession reaches the public through the press. This experience has given me a view of the diversity and scope of this medium of expression not usually seen by a reader of one or two dailies. I would like to share this view with you.

The medical profession, when publicly defending a way of medical practice it believes is better for everyone, is propounding a point of view, not pronouncing a scientific fact. This invites argument and criticism from all who differ, because each is his own authority on a matter of opinion. Unless medicine can swing freely in public debate and accept the bruises of retaliation, it had best confine its forensics to the classroom.

This is particularly true for those of us who, by designation or by office, serve as spokesmen for the profession at various organizational levels. The give-and-take of the open forum can be a harrowing experience until you become hardened to the blows of rebuttal. Even then, it is not comfortable.

Medicine's position on the economics of medical care is not easily accepted by those who prefer to believe promises that imply they will be freed from basic self-responsibility. To this extent, we are championing an unpopular cause. But we must continue, despite the battering that sometimes distorts the reflection of our public image in newspaper reports of what has been said or done.

This occasional distortion is a source of concern to all of us, and many of us vent our displeasure by blaming the newspapers, by accusing them of prejudice. Let me assure you from first-hand experience with the press that it is not out to harm us or to help us, to be our "enemy" or our "friend." It is there to *report* the news, not *make* it. We and our adversaries are the ones who make it. When the news that is reported about medicine is harsh or uncomplimentary, don't blame the press. To do so is as pointless as killing the courier who brings bad tidings.

Sometimes the profession looks good in print. Sometimes it doesn't. But whatever the appearance, it is the result of something that someone said or did, on either side of the argument.

The responsible press of this state—and it is by far in the majority—is represented by responsible reporters. They are capable and conscientious. They are seldom misled by evasion or double talk and quickly learn whom they can depend on for a straight answer.

Reporters are trained to look behind the prepared statement for the "why" of the story. And if there is another side, they need to know what it is. It is simply enlightened self-interest to cooperate with them to the fullest. The results may not always be flattering to us or our cause—but that isn't necessarily the reporter's doing; it usually is the nature of the news itself.

There are instances, of course, when medicine's image, as reflected in a newspaper article, appears to have been deliberately disfigured by the writer. This is most likely to seem to be the case when the reporter's name is signed to the story, a practice that permits a freedom of expression not possible in an unsigned article.

When this occurs it is a good idea to give the article a second reading—and then a third. It might develop that what at first appears to be reportorial bias resolves into a straightforward recital by the reporter of some unpleasant statements that were made by someone else. This could be confirmed by comparison with another newspaper's account of the same story.

If, however, the verbal embellishments of the facts show prejudice, one is certainly justified in going to the source by arranging a meeting with the writer for an airing of differences of opinion. It is surprising how far a reasonable discussion can go toward achieving a mutual respect—even if neither accepts the other's point of view.

It is at times like this—and whenever medicine speaks on public issues—that the aloofness of the profession's top hat and the authority of its frock coat must be hung on the rack with the buggy whip. Shirt-sleeve sincerity is the strongest armor we have.

We must continue to speak out, even knowing that our position may not now be unchallenged. And we must continue to speak plainly and clearly, hoping that our words will be adequately reported, fully understood and, eventually, widely accepted.

Samuel R. Sherman, M.D.

California MEDICAL ASSOCIATION

NOTICES & REPORTS

Health Care for the Aged

SUMMARY OF TESTIMONY BY THE CALIFORNIA MEDICAL ASSOCIATION

- Many progressive steps for the aged have already been taken in California, including accreditation of nursing homes and related facilities and opportunities for upgrading of personnel training in these facilities.
- A California study on aged welfare patients shows that more than six out of seven sought assistance for other than medical care needs.
- Last census showed that 29 per cent of the families over 65 in California had the head of the family in the work force. In addition, in 17 per cent of the families, other members were in the labor force.
- Old Age Assistance (OAA) and Medical Assistance for the Aged (MAA) programs in California cover over 275,000 aged persons.
- An estimated 560,000 in the state have some form of voluntary health insurance coverage.
- The MAA program in the state has emphasized long-term chronic care in hospitals and nursing homes. It has not been satisfactorily implemented, but modifications have been recommended.
- The California Medical Association suggests to the committee that study be given to the adequacy of OAA allowances which may have some bearing on the implementation of MAA programs throughout the country.
- The burden of proof for a radical change in present methods of providing care is on the proponents of H.R. 3920.

Mr. Chairman and Members of the Committee:

Thank you for allowing me the opportunity to present the views of the California Medical Association on the provision and financing of health care of our aged population.

My name is Samuel R. Sherman. I am a Doctor of Medicine. Since 1933 my medical practice in San Francisco has been devoted to general surgery. Currently I serve as President of the California Medical Association which comprises approximately 22,000 practicing Doctors of Medicine in one of the largest states in the country. For ten years I have been a member or chairman of the governing council of this state organization. The information I bring to this committee, then, represents what I believe to be the viewpoint of the vast majority of our physician membership.

For decades our state medical association has been concerned with a host of problems and activities involving the health of the people of California. Today, roughly 450 practicing physicians serve without remuneration on 75 active commissions and committees of our association. These study and recommendatory bodies deal with nearly every conceivable health problem including mental health, disaster medical care, occupational health, traffic safety, medical aspects of sports, continuing medical education, maternal and child care, scientific information, school health, rural health, dangerous drugs, and many others, including the socio-economic aspects of medical care for various segments of our population.

C.M.A. Activities for the Aged

Regarding the aged population in California, we have endeavored to take the broadest possible approach to their health care needs.

Out of this concern and attention was organized,

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A statement before the Committee on Ways and Means, United States House of Representatives, by Samuel R. Sherman, M.D., President of the California Medical Association.

in December of 1959, the California Joint Council to Improve the Health Care of the Aged. This Council represents the inter-disciplinary cooperation of the five sponsoring organizations, including the two dental associations in our state, California Hospital Association, California Association of Nursing Homes, and the California Medical Association. The objectives of the Joint Council include: (a) Identifying and analyzing the health needs of the aged, (b) Appraising available health resources for the aged, (c) Fostering effective methods of payment for the health care of the aged, (d) Developing community programs to foster the best possible health care of the aged, (e) Promoting health education programs for the aged, and (f) Informing the public of the facts related to health care of the aged.

In pursuit of these objectives the Joint Council, with active support of the medical association, has initiated two specific efforts which I would like to call to the attention of this committee:

One is the formation of the California Commission for the Accreditation of Nursing Homes and Related Facilities. This is a voluntary, non-profit group supported by the same member organizations. Recognizing the importance of adequate nursing homes in the provision of health care of the aged, the Commission developed standards for measuring health care in nursing homes and related facilities which exceed, in quality, the minimum requirements for licensure. We continue to support this effort to improve the quality of health care provided to the aged in nursing homes in our state.

The second is the organization of the California Coordinating Committee for the Education of Personnel in Facilities for the Aged. Again, formation of this committee has had the full support of our association. The membership of this committee includes representatives from several state voluntary associations, state governmental departments of social welfare, mental hygiene, public health and education, private colleges, and the state college system. Purposes of this committee include upgrading educational standards and providing opportunities in adult education for personnel working in facilities for the aged. We are particularly pleased to note the excellent cooperation existing among the several nongovernmental and state governmental agencies which participate in this committee.

Aged Population in California

If I may now, I would like to turn our attention to a discussion of several facts regarding the aged population in California.

Census data of 1960 reveal that there were 1,376,200 persons over 65 years of age living in California. Of this number 822,967, or 59.8 per cent were receiving OASDI benefits; 255,973, or 18.6 per cent were receiving Old Age Assistance; and 122,482, or 8.9 per cent were receiving both OASDI and OAA.

The notion has been fostered by some that all or many of the hardships of the aged are caused by medical needs. Our State Department of Social Welfare conducted a study from July 1960 to June 1961 of the reasons for granting aid to Old Age Assistance recipients coming on the rolls in California during that period. The sample studied included 27,501 persons. As might be expected, significant reduction in income caused 57.3 per cent of them to seek welfare assistance. However, only 8.3 per cent of this group was found to have had their assets reduced or exhausted by medical care costs. The remaining 42.7 per cent of those who qualified for the program had suffered no recent significant reduction in income or resources. The recent medical care needs of only 7.5 per cent caused them to seek assistance. Thus, for the total sample, approximately 15.8 per cent might be said to have sought assistance because of the need for help in meeting medical care costs. More than six out of seven sought assistance for *other than medical care needs.*

We conclude from this study that the cost of medical care constitutes only a small percentage of the causes of economic hardships encountered by the aged. Yet, it is the hardship of medical care expense which is continually cited as the major reason for providing hospitalization through taxation for nearly all those 65 or over as suggested in H.R. 3920. The need for supplemental income when one loses his steady income or other means of support is a much greater hardship for many people over 65 than is the cost of medical care.

Regarding the income status of the over-65 population in California, the last census showed that in 29 per cent of the families over 65 in our state, the head of the family was in the labor force. In addition, in 17 per cent of the families, other members were in the labor force. The median annual income of these families was $3,681. A substantial number of people over 65 are still in the labor force in California, and apparently are as able to take care of their medical needs as when they were under 65.

The favored income tax provisions for the aged and their smaller budgeting needs (including clothing, housing, education of children, job transportation, etc.) indicate that they require less dollar income in comparison to families of younger age.

Voluntary Health Insurance in California

The progress which has been made in the provision of voluntary health insurance programs to persons over 65 in California is striking evidence of the manner in which the aged medical care problem is being attacked by the professions, insurance industry, management, labor and the aged themselves.

A report of the national Health Insurance Institute indicates that, as of October 1962, 55 per cent of the total noninstitutionalized aged population in the United States was enrolled in some form of voluntary health insurance.

If we apply this 55 per cent to California, subtracting the approximately 275,000 aged whose health care is provided through Old Age Assistance and MAA and the 70,000 institutionalized population in our state, then we have over 560,000 aged persons in California with some form of voluntary health insurance coverage.

To understand better the number and types of voluntary health insurance plans available to aged persons in California, the Bureau of Research and Planning of the California Medical Association was commissioned to survey the companies offering over-65 coverage in our state. Their report, issued in November 1962, revealed that at least 70 companies and prepayment plans were then offering approximately 140 different voluntary health insurance programs to the aged in our state. Other companies are planning to add new or expanded programs. (Incidentally, the Bureau of Research and Planning of our state association has been responsible for contributing to our knowledge on several important socio-economic subjects, including programs for the aged. One of these is a Data Sourcebook on the Aged, several copies of which I have filed with your committee counsel.)

At this time older persons in California can obtain health care benefits under many different forms of voluntary health insurance. The various types of coverage offer a wide scope of benefits through a wide range of premium costs. These programs, which are available to older persons on an individual or group enrollment basis, provide guaranteed renewable coverage during the life of the individual. The survey did not include the variety of programs and policies offered by many insurance and prepayment organizations and other health insurance mechanisms which enable the individual to convert his policy and become eligible for benefits upon retirement. We earnestly hope that no action will be taken to retard the growth and development of these voluntary health insurance programs in our state by removing the incentive for them.

An additional development in California, as far as voluntary health insurance is concerned, is the passage of permissive legislation by the 1963 General Session of the California Legislature which permits insurance carriers to pool their resources to provide improved programs of coverage to persons 65 and older. We are encouraged with this progressive step to protect further our senior citizens.

Sixty insurance companies have joined in this cooperative effort and they will offer—under the title of Western 65—three plans for the senior citizens of California. This insurance will be available March 1, 1964.

Prepayment Experiment in Santa Barbara County

It is our hope that all Public Assistance Medical Care and Medical Assistance to the Aged programs will be financed eventually through the insurance principle.

As an experiment in this regard, our California Blue Shield Plan (California Physicians' Service) is now serving as the prepayment vehicle in PAMC and MAA programs in Santa Barbara County. This project has been in effect since February, 1963, and has the full support of physicians in the area.

We hope that the favorable experiences resulting from this prepayment experiment can be adapted throughout California.

Kerr-Mills Implementation in California

The 1961 General Session of the California Legislature partially implemented the Kerr-Mills Law by enacting the California Rattigan-Burton Law. This 1961 law provided payments for long-term chronic care in hospitals and nursing homes and other benefits. However, the rules of eligibility permitted OAA recipients to be transferred to MAA when they were in need of long-term care in a hospital or nursing home. The Law became effective January 1, 1962.

During the first full year of operation (1962), the MAA program in California covered 27,539 persons with inpatient benefits. The total amount of monies spent during this period was 46 million dollars or an average of $1,670 per beneficiary.

After one year of experience we recommended that certain changes be made to improve this health care program by providing for acute care in hospitals.

The principal 1963 modification finally adopted now allows for payment for the first 30 days' care—acute care— if confinement occurs in a county or contract hospital. Thus, choice of hospital is still unnecessarily limited.

Let me make it perfectly clear, for the benefit of the committee, that the California Medical Association believes the mechanism of MAA under the Kerr-Mills Law at the national level is adequate and desirable. We think that this law, with its emphasis on helping those persons who need it and giving them all the help required, is the best solution to the problem for this segment of the population.

It is unfortunate that many states, including California, have failed to provide the new funds needed to implement the law. Some state administrations are urging the Congress to increase Social Security taxes under H.R. 3920, an increase in California taxes alone of over $200 million, but they refuse to ask their own legislatures to appropriate a much smaller amount to match MAA funds.

It is difficult for us to understand how our own Governor can advocate passage of H.R. 3920 thus burdening his constituency with increased Social Security taxes, instead of promoting the full implementation of an already existing program (MAA) which can do an effective job.

Certain provisions of the Federal law have allowed the transfer of OAS patients to MAA without spreading benefits to new patients in significant numbers. We think one possible cause of this procedure on the part of state and county governments is that present Federal funds for OAA are inadequate to cover hospital and nursing home care. There is a ceiling on OAA matching funds, but none on MAA. We respectfully urge the committee to consider seriously the matter of improving the existing OAA medical care allowances which would, in effect, stop the shifting of OAA cases to MAA.

As far as MAA in California is concerned, we will continue to use our best efforts to improve the program and make it fulfill the original intent of the Congress. We have confidence that our Legislature, working in cooperation with our association and several other governmental and nongovernmental agencies, will respond in the future to whatever changes in the MAA program seem indicated—changes which will benefit the aged in California.

Adequate Programs Already Exist

My testimony would not be complete if I failed to comment on the effective manner in which other facilities of our State make their services available to citizens. The system of county hospitals in California, county health department clinics, local mental health facilities—all are, and have been, available to the aged. I am proud to say that many members of our association contribute their time and services to assure the success of these efforts.

While we recognize that there will be no single program or answer to provision and financing of health care for our aged population, we firmly believe that the plurality of existing efforts is sufficient to accomplish the task. Taking into consideration the economic status of our aged in California, we feel strongly that with our system of county hospitals, Old Age Assistance, Medical Assistance to the Aged, and voluntary health insurance, we have the mechanisms available to offer to any aged person the assurance that his health care needs will be met.

The burden of proof, we feel, is on those who would change radically our method of provision of health care for persons over 65. Legislation, such as the Social Security tax approach in H.R. 3920 and similar Federally-controlled programs would mean needless duplication and stifle the progressive steps we have already taken in California.

It would be a severe change to make the Federal government directly responsible for the payment of the health care needs of all persons, 65 and over. The inevitable Federal regulations which the administrator would have to impose, in order to carry out his fiscal responsibility, will not promote high quality medical care at the local level. In other programs, such regulations have caused unnecessary frustration and interference.

My simple plea on behalf of my professional colleagues in California is that no Federal legislation be enacted which would have the effect of retarding the positive and progressive steps being taken in California and elsewhere to improve the health care of the aged.

And now, Mr. Chairman, I believe I can most profitably use the remaining time allotted to me to review briefly the facts which have been disclosed during these hearings on H.R. 3920—material which constitutes a compelling array of reasons why this measure should be rejected.

Now, in the closing moments of these hearings, I speak not only for the California Medical Association, but for all of American medicine.

More than two months have elapsed since these hearings were recessed. Understandably, facts laid before you last November have begun to retreat into the past. Permit me to recall the more significant facts which stand in answer to the emotional appeals and generalizations employed here by the supporters of the King-Anderson bill. Permit me also to rebut certain charges which have been made by witnesses who have sought your support for H.R. 3920.

Kerr-Mills—Failure or Success?

The Kerr-Mills Law, for example, has been referred to over and over again in the testimony. You have heard its rate of progress questioned, its implementation described as spotty and slow.

On the very first day of the hearings, the Secretary of Health, Education, and Welfare, Mr. Anthony Celebrezze, stated flatly: "MAA does not help at all many of the aged who need help; and for many of those who do get some help, the help is very limited."

If true, Mr. Chairman, this is a serious charge. But I submit the record of these hearings does not bear out the allegation.

The American Medical Association offered in its testimony an exhaustive survey of the development of health care aid for the needy and near-needy aged under Kerr-Mills. This marked the first time the committee has received a comprehensive report on the effectiveness of the law in filling the purpose for which it was designed by Congress—assisting those who can meet the expense of everyday living but who might have difficulty in meeting the expenses of prolonged illness.

The AMA report showed that under Kerr-Mills, new medical assistance programs for the aged had been established in 29 states, Guam, Puerto Rico, the Virgin Islands, and the District of Columbia. The report further stated that within a few more months, such programs will also be in operation in 36 states and the four other jurisdictions, to assist those who may need help.

As recently as last Monday, Congressman Curtis of Missouri noted that the rate of implementation of Kerr-Mills has been almost twice as fast as it was for the vendor medical payment program under the Old Age Assistance law.

On the question of how many are actually being helped through Kerr-Mills, you will recall that the testimony on the first day of the hearings disclosed that some 451,000 over-65 Americans received MAA benefits during the 1963 fiscal year.

The testimony on money expended to provide the necessary help was equally impressive. During the fiscal year ended June 30, 1963, $410.7 million in OAA funds and $287.3 million in MAA funds—well over half a billion dollars—were spent in vendor payments for health care.

Does this sound as though not many of the aged are being helped, as stated by Mr. Celebrezze? No. It reflects a record of acceptance and achievement which simply cannot be denied.

Attempting further to discredit the effectiveness of the Medical Assistance for the Aged programs, witnesses have reached for examples to present to the committee which were aimed, hopefully, at demonstrating restrictive eligibility requirements and inadequate provisions for care.

But what does the record actually show?

It shows constant improvement and strengthening of MAA. Since their original enactment of these programs, 15 states have liberalized eligibility requirements and four other states are considering such action. Benefits have been increased in 16 states, and some states have improved their programs more than once.

Spokesmen for the medical societies of Arkansas, Kentucky, Illinois, Michigan, and Pennsylvania—to touch on only a few states of varying sizes and characteristics—have told you of increased hospital benefits, of higher incomes allowed single persons and married couples, and of other advancements in their Kerr-Mills programs since the enabling legislation was passed.

You have heard Mr. Arlin M. Adams, Secretary of Public Welfare for the Commonwealth of Pennsylvania, support medicine's testimony on this point with the following words:

> Pennsylvania's partnership with the Federal Government under Kerr-Mills has made it possible to provide hospital and certain other health care to older persons who are least equipped financially to pay. Our aged population is becoming increasingly aware of the objectives of the MAA program, and are learning to use it. . . . We do not intend to rest on what has been accomplished. Our goal is to continue improving the Pennsylvania Kerr-Mills effort.

Unfortunately, as you know, this positive and encouraging approach to Kerr-Mills is not shared by all who have been trusted with its administration in the federal government. Look to the record which has been made before this committee during these hearings. How often has it been evident that those of us who seek to give the law a fair chance to prove or disprove its value, have been thwarted.

On the opening day of these hearings, the government witnesses were questioned about their lobbying and pamphleteering in behalf of King-Anderson and their obstruction of Kerr-Mills.

The next day, the distinguished Senator from South Dakota, Senator Karl Mundt, appeared before you and documented his charges that HEW officials and other King-Anderson supporters have carried out "a planned program of interference" with Kerr-Mills development. This was his testimony:

> These people, many in places of immense power, have used every means at their disposal to discredit Kerr-Mills in the eyes of the public, to confuse state legislatures in their attempts to enact proper programs, and to demean potential recipients of MAA benefits with meaningless red tape used under guise of the means test.

Then he asked, "How could any program work perfectly with this kind of hamstringing at every turn?"

It is a good question. The answer must be that it is a far better program than it has been given credit for, and, afforded an honest chance, it will do the job for which it was intended.

Insurance—A Worthy Program?

Mr. Chairman, another method of financing health care for the aged is voluntary health insurance and prepayment plans. These hearings have produced extensive, documented testimony by the insurance industry, the AMA and others on the continued dramatic growth of these mechanisms. Mr. H. Lewis Rietz, Executive Vice President of the Great Southern Life Insurance Company of Houston, Texas, who appeared in behalf of associations representing 90 per cent of the voluntary health insurance underwritten by insurance companies, testified that 60 per cent of the aged, or more than 10 million Americans, now have such protection.

Lest there be some question regarding the accuracy of this statement, let me quote it from his testimony. Under the heading, "The Current and Potential Role of Private Health Insurance," Mr. Rietz said:

> In July 1961 we estimated that 53 per cent of the non-institutionalized aged population were covered by some form of voluntary health insurance. Continuing dynamic growth has resulted in a significantly increased proportion of the aged having coverage today. By December 1962, 60 per cent of the aged had voluntary insurance.

(I have made a point of quoting from the record because on this past Tuesday Mr. Sidney Zagri, in behalf of the Teamsters Union, charged the American Medical Association with being inaccurate in its use of the 60 per cent figure as an estimate of the aged who had some form of health insurance coverage. I fear that Mr. Zagri, unaware of the authoritative source of the statistic, was a bit too anxious to represent it as a figment of AMA imagination.)

What is more, Mr. Rietz said the number buying health insurance is increasing every day. With new plans and ideas developing at a fast pace, he was able to forecast that within the next three years 70 to 75 per cent of the people over 65 would be covered by voluntary plans.

Nevertheless, the record before you shows that supporters of H.R. 3920, including such witnesses as Mr. Celebrezze and Mr. George Meany of the AFL-CIO, regard private insurance as inadequate and too expensive for aged citizens. Mr. Chairman, our private enterprise system just doesn't work that way. Overpriced products or those which fail to fulfill the claims made for them do not survive on the open market; certainly, they do not enjoy steadily increasing popularity among consumers. And we know that Americans over 65 are buying health insurance at a faster rate than any other age group.

Cost of King-Anderson—Understated

Another point on which the hearings must turn is the cost of this proposed new federal welfare program—the cost to the government, the cost to the individual working man. Surely, the testimony leaves no doubt that H.R. 3920 would be unpredictably but staggeringly expensive.

You will recall the testimony of the Department of HEW's own actuary—testimony which has been referred to many times during the course of these hearings. He admitted under examination by the Chairman that the increase in the payroll tax rate proposed in the bill should be twice as high at the start to keep the program solvent; in other words a boost of 1 per cent on a base of $5,200 rather than the one-half of 1 per cent which the proponents have claimed would be sufficient to finance hospitalization and related benefits for the entire aged population.

What does this mean to the worker? It means a steady whittling away at the take-home pay of wage earners at the low end of the income scale, many of whom do not earn enough to pay a federal income tax. Those earning $5,200 or more would, if this bill were enacted now, begin paying a total Social Security tax of $201.50, and the employer would pay a like amount. Included in the total tax of $403 would be $55 to pay for federal health benefits for millions of Americans who neither want nor need government assistance. And these figures do not include the increase Mr. Myers admitted was necessary!

This evidence also confirms the long-standing position of the American Medical Association, the insurance industry, and the many others who have analyzed the cost factors, that the government estimates have been unrealistically low—a fact which was disclosed when the HEW actuary admitted from the witness stand that he and his colleagues have in the past underestimated the cost of this kind of legislation by as much as 100 per cent.

The Aged—Are They All in Financial Distress?

From the beginning, Mr. Chairman, the question of financial need has lain at the heart of this controversy. The preamble of the measure before you portrays elderly Americans as a class of impoverished, helpless, sick human beings simply because they have passed a 65th birthday. Government witnesses and other proponents of the bill have followed this line of argument to support their claim of the overwhelming need for this legislation.

Again, what does the record show?

The testimony of the AMA and its constituent state societies has demonstrated that the medical cost problems that do exist among the aged are problems of the individual and not of an entire age group. Most of the aged are self-reliant, independent, and in control of their economic destinies. Even the President's Council on Aging was able to delineate a remarkable record of economic improvement for these Americans.

It is not possible for me at this time to review or even attempt to summarize the many and sometimes confusing array of statistics which has been presented to this committee on the health and financial condition of our aging citizens. I ask, however, that during this committee's deliberations, it once again examine the representations made by the American Medical Association whose testimony is documented in detail. It is based on facts and figures—material from HEW statistics, from Census reports, and from numerous studies and surveys made by unimpeachable sources. The sources are cited and the facts are fairly presented.

Permit me to refresh your recollection as to what was said by one witness. In Tuesday's afternoon hours, your committee heard Mrs. Constance Ann Field of Pittsburgh, Pennsylvania. She reviewed some of the same statistics you have heard time and time again, but did so in capsule form. Here is what she said in describing the aged individual:

> Seventy per cent of him owns his own home; 53 per cent of him already has his own insurance; the big majority of him has benefits: OASI, Railroad Retirement, civil service pensions; military pensions; private annuities; etc. As a group he has the lowest indebtedness in the United States and an average capital evaluation of $10,000.

Invitation to Overuse

Mr. Chairman, the lengthy record of these hearings contains many other significant arguments against H.R. 3920, including the profound changes in our system of health care, and the decline in its unequaled quality, which passage of this legislation would bring about. I cannot touch on them all, but I am going to take a moment to mention one point which perhaps has not been emphasized as much as it should have been in view of its fundamental importance in the consideration of this proposal. That is, the overuse of the nation's health care resources which the bill invites.

In some parts of the country, particularly in urban areas, our hospitals and nursing homes are having difficulty in meeting current demands for services. The population is growing and the economy is rising. More people are capable of buying more frequent and more extensive care. There are bound to be increasing calls for services of all kinds.

Add to these factors a program of "free" government benefits for a large segment of the population and the peril of over-crowding of the existing facilities becomes acute. Under this pressure, the quality of care in institutions strained to the limit of their resources would suffer.

The program, however well intentioned, must be viewed as an incentive for patients to use as many of the tax-financed benefits as possible. In fact, it must be assumed that many citizens would be convinced they had a vested interest in obtaining as much care as possible at government expense.

The medical profession and other providers of health care in this country long ago recognized the need for expanding facilities to keep pace with the needs of our burgeoning population as those needs could be anticipated under normal circumstances. They are doing so, and have been for some time.

The AMA and its constituent state societies have supported the Hill-Burton Act for hospital and nursing home construction, FHA mortgage insurance for proprietary nursing homes, construction of new medical schools and enlargement of existing ones. There are now 11 new medical schools in the planning state.

The AMA has also established a multimillion dollar loan guarantee program, underwritten by voluntary contributions of the nation's physicians, to encourage and assist young people to take up the study of medicine. In this connection, I am pleased to point out that the Association's Council on Medical Education and Hospitals recently reported a 10 per cent increase in the number of medical school applicants for 1962-63, the first upturn in six years.

In short, Mr. Chairman, medicine and others engaged in health care have done and are doing everything humanly possible to assure care for the sick in the years ahead. But orderly progress could be placed in jeopardy if this measure becomes law. And not only would the burden on hospitals and nursing homes approach impossible proportions, but the aged who have been led to expect so much from this bill would find themselves cruelly disappointed at being denied the promised services because there simply were not enough facilities to take care of them. I urge you to consider this point as you proceed with your deliberations on H.R. 3920.

In Conclusion

Mr. Chairman and members of the committee, this concludes our case. We in medicine who have opposed the King-Anderson plan have done our utmost to present to this committee the facts and the philosophy which underlie our position. We have appreciated your patience and the time granted to us, and we in turn hope that our testimony will assist you in reaching your conclusions.

American medicine wishes, as I am sure you do, that the subject of financing health care for our senior citizens could be aired in every forum of the land with the care and attention it has received here. We hope that the record of these proceedings will be studied by the many organizations and individuals who have an interest and concern, both for the elderly and for the welfare of our country.

We believe that when Americans in every corner of the land have the facts and understand the true issues here, there will be no question of their verdict on the King-Anderson bill. We are confident that the great majority of them will join in asking that you reject H.R. 3920 because it is unnecessary, inequitable, and an unmistakable peril to our present system of health care.

Mr. Chairman, thank you again for the courtesy which you have extended to me, to the California Medical Association and to American medicine.

In Memoriam

AUSTIN, JOHN H., Covina. Died in an automobile-train accident, December 13, 1963, in Ontario, aged 51. Graduate of the University of California School of Medicine, Berkeley-San Francisco, 1937. Licensed in California in 1939. Doctor Austin was a member of the Los Angeles County Medical Association.

✤

BENSON, EUGENE HUNTINGTON, Jr., El Centro. Died December 11, 1963, in Tucson, Arizona, aged 59. Graduate of the University of Pennsylvania School of Medicine, Philadelphia, 1929. Licensed in California in 1929. Doctor Benson was a member of the Imperial County Medical Society.

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DOYLE, EDWARD J., Costa Mesa. Died December 19, 1963, in Costa Mesa, aged 52. Graduate of Ohio State University College of Medicine, Columbus, 1937. Licensed in California in 1947. Doctor Doyle was an associate member of the Orange County Medical Society.

✤

FEICHTMEIR, THOMAS V., San Francisco. Died December 8, 1963, in Palm Springs, aged 46, of heart disease. Graduate of the University of California School of Medicine, Berkeley-San Francisco, 1942. Licensed in California in 1942. Doctor Feichtmeir was an associate member of the San Francisco Medical Society.

✤

GARTHWAITE, MARY ELIZABETH (ARCURI), Oakland. Died December 1, 1963, in San Francisco, aged 49, of hemorrhage from multiple myeloma. Graduate of the University of California School of Medicine, Berkeley-San Francisco, 1941. Licensed in California in 1941. Doctor Garthwaite was a member of the Alameda-Contra Costa Medical Association.

✤

HANSON, ORCINA HARRY, San Gabriel. Died December 21, 1963, in San Gabriel, aged 64, of heart disease. Graduate of the University of Oklahoma School of Medicine, Oklahoma City, 1928. Licensed in California in 1929. Doctor Hanson was a member of the Los Angeles County Medical Association.

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HARADA, MASA ATSU, Sacramento. Died November 26, 1963, in Sacramento, aged 64. Graduate of the University of California School of Medicine, Berkeley-San Francisco, 1925. Licensed in California in 1925. Doctor Harada was a retired member of the Sacramento County Medical Society and the California Medical Association, and an associate member of the American Medical Association.

✤

JONES, NORRIS R., Sacramento. Died December 28, 1963, in Las Vegas, aged 65. Graduate of the University of Oregon Medical School, Portland, 1924. Licensed in California in 1924. Doctor Jones was an associate member of the Sacramento County Medical Society.

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LOTTRIDGE, DOROTHY, Fresno. Died December 8, 1963, in Fresno, aged 63. Graduate of Woman's Medical College of Pennsylvania, Philadelphia, 1926. Licensed in California in 1943. Doctor Lottridge was a member of the Fresno County Medical Society.

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MORGENSTERN, HYMEN SIDNEY, Costa Mesa. Died December 25, 1963, in Costa Mesa, aged 58, of heart disease. Graduate of Creighton University School of Medicine, Omaha, Nebraska, 1937. Licensed in California in 1938. Doctor Morgenstern was an associate member of the Napa County Medical Society.

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MURAMOTO, JIRO, Sacramento. Died December 23, 1963, in Sacramento, aged 55, of cerebral vascular accident. Graduate of the University of California School of Medicine, Berkeley-San Francisco, 1934. Licensed in California in 1934. Doctor Muramoto was a member of the Sacramento County Medical Society.

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REYNOLDS, PHILIP ALLEN, Twentynine Palms. Died December 23, 1963, in Los Angeles, aged 67, of cardiac arrest. Graduate of Boston University School of Medicine, Massachusetts, 1925. Licensed in California in 1926. Doctor Reynolds was a retired member of the Los Angeles County Medical Association and the California Medical Association, and an associate member of the American Medical Association.

✤

ROSS, WAYLAND BRUNER, Jr., Northridge. Died December 30, 1963, in Pacoima, aged 39, of severe brain injury in an automobile accident. Graduate of the University of Southern California School of Medicine, Los Angeles, 1950. Licensed in California in 1950. Doctor Ross was a member of the Los Angeles County Medical Association.

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SEGALL, GABRIEL, Los Angeles. Died December 10, 1963, in Los Angeles, aged 68, of a coronary. Graduate of Friedrich-Wilhelms-Universität Medizinische Fakultät, Berlin, Prussia, Germany, 1922. Licensed in California in 1923. Doctor Segall was a member of the Los Angeles County Medical Association.

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TOLLEFSON, DONALD GASMAN, Los Angles. Died December 31, 1963, in Los Angeles, aged 65, of coronary artery disease. Graduate of the University of Minnesota Medical School, Minneapolis, 1925. Licensed in California in 1928. Doctor Tollefson was a member of the Los Angeles County Medical Association.

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VALENSI, ALBERT, Los Angeles. Died December 9, 1963, in Burbank, aged 76, of acute myocardial infarction. Graduate of Columbia University College of Physicians and Surgeons, New York, N.Y., 1915. Licensed in California in 1939. Doctor Valensi was a retired member of the Los Angeles County Medical Association and the California Medical Association, and an associate member of the American Medical Association.

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VARANINI, EMILIO EUGENE, Jr., Sacramento. Died December 19, 1963, in Sacramento, aged 58. Graduate of Creighton University School of Medicine, Omaha, Nebraska, 1936. Licensed in California in 1937. Doctor Varanini was a member of the Sacramento County Medical Society.

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WATSON, LEIGH F., Hollywood. Died December 13, 1963, in Los Angeles, aged 79, of uremia. Graduate of the Medical College of Virginia, Richmond, 1906. Licensed in California in 1927. Doctor Watson was a retired member of the Los Angeles County Medical Association and the California Medical Association, and an associate member of the American Medical Association.

APPLICATION FOR HOTEL ACCOMMODATIONS

93rd Annual Session

CALIFORNIA MEDICAL ASSOCIATION

MARCH 22 to 25, 1964
BILTMORE HOTEL
LOS ANGELES

House of Delegates Opening Session Saturday evening, March 21; Scientific Programs begin Sunday morning, March 22.

INFORMATION

1. Please fill in the form below **completely** for room accommodations at the CMA's 1964 Annual Session. There is only a limited number of rooms available. Your choice of accommodations will be better if your request is for rooms to be occupied by two or more persons.
2. Your reservation request should include the **definite date and hour** of your arrival and departure.
3. Reservations can only be held until 6:00 p.m.
4. **All reservations must be made through the CMA Housing Bureau, Department 34, 693 Sutter Street, San Francisco, California 94102.**
5. **DEADLINE** for housing: March 9, 1964.

HOTEL ROOM RATES:

	Single	Twin	Suites
BILTMORE HOTEL			
515 So. Olive St.	$ 9.50-15.50	$12.50-17.50	$25.00-65.00
MAYFLOWER HOTEL			Corner Studio
535 So. Grand	$ 7.50-10.00	$10.00-14.00	$12.00-14.00
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			Large Suite
			$34.00-41.00
AMBASSADOR HOTEL 3400 Wilshire Blvd.			
Main Building	$14.00-24.00	$18.00-28.00	$40.00-58.00
Garden Suites	$22.00-34.00	$24.00-36.00	$54.00-66.00

California Medical Association—Housing Bureau, Department 34
693 Sutter Street, San Francisco, California 94102

Please reserve the following accommodations for the 93rd Annual Session of the California Medical Association in Los Angeles, March 22-25, 1964. The first meeting of the House of Delegates begins Saturday evening, March 21; Scientific Programs begin March 22.

Single Room $..........Twin-Bedded Room $.......... Other..........

Small Suite $.......... Large Suite $.......... Other..........

First Choice Hotel.......... Second..........

Arrival (date)..........Hour..........a.m..........p.m..........

Departure (date)..........Hour..........a.m..........p.m..........

Hotel reservations only held until 6:00 p.m.

THE NAME OF EACH HOTEL GUEST MUST BE LISTED.* Therefore, please include the names and addresses of both persons for each twin-bedded room requested; and names and addresses of all other persons for whom you are requesting reservations, and who will occupy the rooms asked for:

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Individual Requesting Reservations—PLEASE PRINT OR TYPE:

Name:..........Are you a CMA Officer?..........Delegate?..........Alternate?..........

Address:..........County..........

City and State.......... Zip No..........

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*Number of children attending.......... Ages.......... Do you wish planned activities for them? Yes.......... No..........

PUBLIC HEALTH REPORT

MALCOLM H. MERRILL, *M.D., M.P.H.*
Director, State Department of Public Health

CONSTRUCTION IS PLANNED this year of a four-story laboratory wing on the department's headquarters in Berkeley. The million-dollar wing will house the activities of the department's cancer field research project.

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During this year the department will intensify its efforts to blunt the sharply rising incidence of venereal disease. Venereal disease in California has increased at an alarming rate, and now is the top ranking communicable disease problem.

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Special emphasis is being given to environmental health problems, in particular agricultural chemicals, pesticides and insecticides. Toward that end, and in conjunction with the University of California, the department has obtained a grant for study of the health effects of food additives upon the population.

The major concerns of the department include the continuous provision of a wholesome and entirely safe food supply; the unintended effects of food additives on the purity of the water supply and on contamination of the air; the maintenance of a safe environment for workmen engaged in the manufacture, preparation and use of agricultural chemicals, and the protection of persons who might be accidentally exposed through error to agricultural chemicals.

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There were an estimated 377,000 live births in California in 1963, a decrease of about a thousand from the previous year. In spite of California's increasing population, the birth rate seems to follow the national trend in a decline which began during the latter part of 1961. That year the California birth rate was 23.2 per 1,000 population; in 1962 it was 22.1, while last year it is estimated to be 21.3—the lowest since 1945.

The number of deaths occurring in the state is estimated to be about 147,000 or about 6,000 more than in 1962. The crude death rate, however, remains approximately the same as in 1961 at 8.3 deaths per 1,000 population.

Of the 147,000 deaths, the proportions due to specific causes remain about the same. Cancer and heart disease continued to account for over half of all deaths. It is estimated that over 8,000 Californians died of accidental causes, at least half of them involving motor vehicles.

It is estimated that about 119,000 marriages took place in the state with 49,000 divorces and 5,900 annulments granted.

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The average American child has three episodes of acute illness a year, and one out of five has at least one chronic condition. This is one of the significant findings in the first national survey in the child health field since 1945-46, when the Children's Bureau, the American Academy of Pediatrics and the Public Health Service joined forces to study child health needs.

The Children's Bureau has released the findings in a publication entitled "Illness Among Children," which is available at 35 cents a copy from the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C.

The report shows that more than 74 out of every 1,000 children have hay fever, asthma or some other allergic condition, and more than 34 out of every 1,000 have chronic sinusitis, bronchitis or some other respiratory ailment. These two groups of conditions account for more than half of the almost 33 million school days lost because of chronic conditions.

* LETTERS *to the Editor*

Mental Illness and Private Medicine

In observing the tactics developed by those employed by government medicine, one is forced to the conclusion that the maintenance of free enterprise and private medicine can only be accomplished if the medical association hires professional physicians to protect its interests at the local level. Perhaps this could be done on a pilot basis. Right now it is important to gain experience at the grass-roots level in methods of combatting the increased movement toward socialized medicine which seems to have no trouble at all in getting in through the back door.

Take for consideration the situation presented by mental illness. Current work in this field indicates that most of these cases can be handled by the general practitioner, internist or pediatrician in a general hospital with consultation being made available from specialists. The American Psychiatric Association is encouraging this approach and is providing personnel to help carry out such a program. More assistance and interest needs to come from private physicians, because what is actually happening in most places to mental patients is something like the following train of events:

1. Many general hospitals refuse to take mentally disturbed patients. This means that the patient must be placed in a mental hospital, more often than not, a state supported one. Both state supported and private mental hospitals remove the patient from the attending physician.
2. The government agency, in order to care for these patients, sets up more bureaucracies using the same old methods that don't work. Now this policy has spread to local government-sponsored mental health centers, which provide a haven for patients, but produce dubious cures, and remove the patient from the care of a private physician.
3. The private physician is deprived of the chance to treat and study a patient on whom he might have made an etiological diagnosis which could mean an entirely different prognosis than the one offered by the archaic customs used by government agencies.
4. When patients are released from mental hospitals, instead of being returned to and followed by the attending local physician, they are followed by, of all people, social workers. This, when there often is some kind of medication involved and when the diagnosis is rarely properly established as being socially oriented.

What then is the answer to this dilemma?

After thoroughly familiarizing myself with the policies of the California Dept. of Mental Hygiene, and also with certain policies of the National Institute of Mental Health, I have come to the conclusion that the California Medical Association should hire its own private psychiatric consultant to actively encourage and advise general practitioners, internists and pediatricians in handling mental patients. If patients need to be committed to state institutions because of lack of local facility in the general hospital, the consultant should see to it that the responsible private physician receives regular reports on the progress of the patient just as is the custom when patients are sent to university teaching centers. This arrangement for follow-through on patients would reduce some of the unnecessary and tragic retention of patients who are railroaded into mental institutions as the result of various kinds of prejudices and nefarious dealings, either from family or from Gestapo-like law enforcement agencies. (And if you do not believe that this exists today, make it a point to interview a few people in jails and mental institutions.)

A psychiatric consultant hired by the California Medical Association should also evaluate the patient care offered by state financed teaching centers. Oddly enough, the most up-to-date knowledge is not necessarily adopted in these centers, and there are cases on record of independent physicians having to struggle with a promising new discovery all by themselves for an unnecessarily prolonged period of time.

With the guidance of an experienced psychiatric consultant, private physicians can be encouraged to apply for research grants to conduct their own original investigations through local facilities (such as the state colleges). Research in smaller communities is being encouraged by the teaching centers, because small communities often have a different kind of material available for study, particularly in situations where patients and their families need to be followed closely over a long period of time.

The California Medical Association need not be permanently committed to a physician-employee of the type outlined above. Once a program or several programs were initiated, the details could be carried out by county or state committees from the Medical Association. The task at the present time, however, seems to be too overwhelming to be accomplished through committees. The private physician needs to be encouraged to take individual responsibility to follow through on these mental patients and to establish local policies that will give patients a better break than they are getting now.

Marseille Spetz, M.D.

NEWS & NOTES

NATIONAL · STATE · COUNTY

ALAMEDA

"The Influence of Drugs on the Fetus and the Newborn" will be the subject of the **Twelfth Annual Clifford D. Sweet Lecture,** to be given this year by Dr. William A. Silverman, associate professor of pediatrics, College of Physicians and Surgeons, Columbia University. The lecture, sponsored by the medical staff of Children's Hospital of the East Bay, Oakland, California, will be delivered at the Claremont Country Club Saturday evening, April 11, following a 7:30 p.m. banquet.

LOS ANGELES

Dr. Warren L. Bostick, a past president of the California Medical Association, was named **dean of the California College of Medicine** February 5, it was announced by W. Ballentine Henley, president of the college. The new dean took over his duties at the time of announcement.

Dr. Bostick, who was president of the C.M.A. for 1961-62 and since then has been chairman of the C.M.A. Bureau on Communications, has practiced pathology in San Rafael since 1946. He was Director of Laboratory Services at U.C. Medical Center. At the University of California School of Medicine, San Francisco, where he took his medical schooling, Dr. Bostick was the first recipient of the Gold Cane award as the outstanding member of his class. He received his M.D. in 1940.

* * *

In an effort to close the gap between psychiatric and legal thinking on vital social issues, the schools of Medicine and Law at University of Southern California have announced a five-year **Institute of Psychiatry and Law for the Judiciary,** beginning this year under a $122,780 training grant from the National Institute of Mental Health.

Two of the institute's early objectives are:

1. A comprehensive survey of southern California judges to determine their attitudes and opinions on the use of psychiatrists in the legal system, and on psychiatric treatment, mental health and other psychiatric issues.

2. A pilot program in which groups of ten to twelve judges of various jurisdictions will meet weekly with psychiatry and law faculty and guest authorities of national stature. These sessions, to be continued over periods of several months, will be devoted to mutual exploration of such subjects as mental competence, responsibility, credibility, recommendation, and disposition in civil and criminal litigation.

* * *

Dr. Ben C. Eisenberg, Huntington Park, California, was elected president of the West Coast Allergy Society at the recent meeting in Las Vegas. Dr. James E. Stroh, of Seattle, was elected vice president and president elect; and Dr. George M. Robins, Portland, was elected secretary-treasurer.

Regional study committees are being set up throughout the state to conduct studies on adverse reactions to drugs and to provide data for an educational program on the subject for physicians.

The retrospective study is being conducted by the California Medical Association's Committee on Adverse Drug Reactions in conjunction with the State Department of Health. It is patterned after the structure of the continuing joint study of maternal and neonatal deaths.

Deaths from aplastic anemia and their possible relationship to drugs, particularly to chloramphenicol, will be reviewed with the consent of the attending physician. All data will be confidential.

The CMA committee, under the chairmanship of John F. Murray of Fresno, will report its findings to the CMA Council. These will be transmitted to the State Senate early in 1965 to conform with a request made by that body at its 1963 session. The results of the study will be made known to the profession at that same time.

SAN FRANCISCO

Dr. J. B. deC. M. Saunders, provost of the University of California San Francisco Medical Center since 1958, has been appointed chancellor of that campus, President Clark Kerr announced recently.

SANTA CLARA

Dr. John W. Hanbery, who has been acting head of the Division of Neurosurgery at the Stanford University School of Medicine since 1960, has been formally appointed executive of the division.

GENERAL

A recent opinion by the U.S. Bureau of Narcotics that the drug *Percodan*® should be removed from the *telephoned prescription* category is expected to lead to California state legislative action next year to conform, according to the Public Health League *Legislative News.* An amendment to the Health and Safety Code would be required to make the opinion binding in California.

Efforts by the California Medical Association to have Percodan placed on triplicate prescription were defeated during the 1963 legislature when the committee hearing arguments on the bill was not convinced that the drug was addictive.

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Dr. James V. Lowry, assistant surgeon general and chief of the bureau of medical services of the U.S. Public Health Service, has been appointed director of the **State Department of Mental Hygiene,** Governor Edmund Brown announced last month.

Dr. Lowry, a psychiatrist, has accepted the appointment contingent on approval of his request for retirement from the USPHS. The Department has been under pro tem administration since the resignation of Dr. Daniel Lieberman last October.

EDUCATION NOTICES

MEETINGS AND COURSES

COMMITTEE ON CONTINUING MEDICAL EDUCATION

THIS BULLETIN of the dates of continuing education programs and the meetings of various medical organizations in California is supplied by the Committee on Continuing Medical Education of the California Medical Association. In order that they may be listed here, please send communications relating to your future meetings or postgraduate courses to Committee on Continuing Medical Education, California Medical Association, 693 Sutter Street, San Francisco, California 94102.

MEDICAL MEETINGS

FEBRUARY MEETINGS

Feb. 16-20—**Western Section, American Urological Association.** Fortieth Annual Meeting. Hotel Del Coronado, Coronado. Contact: M. J. Feeney, M.D., registration, 3415 Sixth Avenue, San Diego 92103.

Feb. 17-18—**Institute for Metabolic Research.** "Recent Additions to the Knowledge of Diabetes." Highland-Alameda County Hospital, Oakland. Monday-Tuesday. All day. Fee: to be determined. Contact: L. W. Kinsell, M.D., director, Institute of Metabolic Research.

MARCH MEETINGS

Mar. 4-5—**Los Angeles County Heart Association and Los Angeles Chapter of the California Academy of General Practice.** "First Annual Cardiovascular Symposium for Physicians Practicing General Medicine." Statler Hilton Hotel, Los Angeles. Wednesday-Thursday. 9:00 a.m.-4:30 p.m. $20. (includes two luncheons). Contact: Harold Miller, M.D., 2405 West Eighth Street, Los Angeles 90057.

Mar. 8-12—**Alumni Postgraduate Convention, Loma Linda University School of Medicine.** Mar. 8-9 (Sunday-Monday)—Refresher Courses. White Memorial Medical Center. $10 each half-day course. Mar. 10-12 (Tuesday-Thursday)—Scientific Assembly. Ambassador Hotel. Members: $10. Non-members: $15. Contact: Jack G. Hallat, M.D., general chairman, 316 North Bailey Street, Los Angeles 90033.

Mar. 13-15—**Anesthesia Section, Los Angeles County Medical Association.** Ninth Annual Postgraduate Assembly in Anesthesiology. Statler Hilton Hotel, Los Angeles. Friday-Monday. $20. Contact: Joseph L. Cadranel, M.D., secretary, 9430 Kirkside Road, Los Angeles 90035.

Mar. 21—**California Society of Anesthesiologists.** Annual Meeting, House of Delegates. Biltmore Hotel, Los Angeles. Saturday. 9:00 a.m. No fee. Contact: Robert E. Ploss, M.D., secretary-treasurer, 39 North San Mateo Drive, San Mateo.

Mar. 21—**California Chapter, American College of Chest Physicians.** Clinical Program. Biltmore Hotel, Los Angeles. Saturday—all day. No fee. Contact: Joseph Boyle, M.D., secretary, 1136 West 6th Street, Los Angeles 90017.

March 22-25—**CALIFORNIA MEDICAL ASSOCIATION 93rd Annual Session.** Scientific theme: "Immunology." Biltmore Hotel, Los Angeles. Sunday-Wednesday. Contact: Mr. John Hunton, executive secretary, 693 Sutter Street, San Francisco 94102.

March 26-27—**California Conference of Local Health Officers.** Semi-annual meeting. Edgewater Marina Hotel, Long Beach. 9:00 a.m. Contact: A. W. Barnes, Division of Community Health Services, California State Dept. of Public Health, 2151 Berkeley Way, Berkeley 94704.

March 31-April 1—**Southwestern Pediatric Society.** Annual lecture series. Statler Hotel, Los Angeles. Contact: Jack W. Bills, M.D., 14914 Sherman Way, Van Nuys, California.

APRIL MEETINGS

April 4-5—**American Psychosomatic Society.** Sheraton-Palace Hotel, San Francisco. Contact: Joan K. Erpf, executive assistant, 265 Nassau Road, Roosevelt, New York.

April 5-6—**American Otological Society.** St. Francis Hotel, San Francisco. Contact: James A. Moore, M. D., secretary-treasurer, 525 E. 68th St., New York 21.

April 7-8—**American Broncho-Esophagological Association.** St. Francis Hotel, San Francisco. Contact: Daniel C. Baker, Jr., M.D., executive secretary, 903 Park Ave., New York 21.

April 7-9—**American Laryngological, Rhinological and Otological Society.** St. Francis Hotel, San Francisco. Contact: Victor R. Alfaro, M.D., 917 - 20th St., N.W., Washington 6, D. C.

April 8—**Los Angeles Radiological Society.** Contact: Bernard J. O'Loughlin, M.D., Dept. of Radiology, UCLA Center for Health Sciences, Los Angeles 90024.

April 9-11—**Tuberculosis and Health Association of California.** Annual Meeting (held in conjunction with California Thoracic Society Medical Sessions). Statler-Hilton, Los Angeles. Thursday-Saturday. Contact: Mrs. Lois L. Clark, administrative assistant, 130 Hayes Street, San Francisco.

April 10-11—**Children's Hospital of the East Bay.** Twelfth Annual Clifford D. Sweet Lecture combined with a two-day postgraduate seminar. Friday-Saturday. Contact: Henry B. Bruyn, M.D., chairman, Sweet Seminar Committee, Fifty-First and Grove Streets, Oakland.

April 10-11—**American Laryngological Association.** St. Francis Hotel, San Francisco. Contact: Lyman Richards, M.D., executive secretary, 12 Clovelly Rd., Wellesley Hills, Mass.

April 22—**Los Angeles County Heart Association.** Annual meeting. Statler-Hilton, Los Angeles. Wednesday. Noon. Contact: Chauncey A. Alexander, executive director, 2405 West Eighth Street, Los Angeles 90057.

April 30-May 2 — **American Cleft Palate Association.** Statler-Hilton, Los Angeles. Contact: Betty Jane McWilliams, Ph.D., secretary-treasurer, University of Pittsburgh.

April 30-May 3—**Hawaii Medical Association.** 108th Annual Meeting. Princess Kaiulani Hotel, Honolulu. Thursday-Sunday. Contact: Randal A. Nishijima, secretary, 1124 Piikoi, Honolulu 14.

MAY MEETINGS

May 1-3—**Society of Biological Psychiatry.** Biltmore Hotel, Los Angeles. Contact: George N. Thompson, M.D., secretary-treasurer, 2010 Wilshire Boulevard, Los Angeles 90057.

May 1-4—**American Psychoanalytic Association.** Ambassador Hotel, Los Angeles. Contact: Mrs. Helen Fischer, executive secretary, 1 East 57th Street, New York 10022.

May 2—**Guild of Catholic Psychiatrists.** Biltmore Hotel, Los Angeles. Contact: Robert Buckley, M.D., executive secretary, 2216 Santa Monica Boulevard, Santa Monica.

May 2-3—**Academy of Psychoanalysis.** Biltmore Hotel, Los Angeles. Contact: Alfred H. Rifkin, M.D., Academy of Psychoanalysis, 125 East 65th Street, New York 10021.

May 3—**Association for Advancement of Psychotherapy.** Los Angeles. Contact: William Wolf, M.D., executive secretary, 40 West 59th Street, New York.

May 4-8—**American Psychiatric Association.** Biltmore Hotel, Los Angeles. Contact: Harvey J. Tompkins, M.D., secretary, 144 West 12th Street, New York 10011.

May 14-15—**Nevada Academy of General Practice.** Reno or Sparks. Contact: Mark B. Raymond, M.D., secretary-treasurer, 1001 Pyramid Way, Sparks, Nevada.

May 15-17—**California Heart Association.** Scientific Sessions and Annual Meeting. Hotel Del Coronado, Coronado. Contact: Paul H. Morton, M.D., chairman, Annual Meeting Committee, California Heart Association, 1370 Mission Street, San Francisco 94103.

May 23—**Ventura General Hospital Medical Staff.** Third Annual Medical Seminar. General Hospital, Ventura. 8:00 a.m. - 4:30 p.m. Contact: R. A. Blossom, M.D., Director of Laboratories.

May 29-31 — **California Society of Anesthesiologists.** First Social-Scientific Meeting. "Ventilation—with emphasis on intermittent positive pressure breathing." Riviera Hotel, Palm Springs. $15. Contact: Mr. Norman Catron, executive secretary, 39 North San Mateo Drive, San Mateo.

FUTURE MEETINGS

(Complete data to follow in later issues)

June 10—**Los Angeles Radiological Society.** Los Angeles.

June 13—**Golden Gate Group Psychotherapy Society.** San Francisco.

June 17-20—**Society of Nuclear Medicine.** Berkeley.

June 18-19—**American Rheumatism Association.** San Francisco.

June 18-20—**Endocrine Society.** San Francisco.

June 18-21—**American Therapeutic Society.** San Francisco.

June 18-22—**American College of Chest Physicians.** San Francisco.

June 19-20—**American Geriatrics Society.** San Francisco.

June 20—**Academy of Tuberculosis Physicians.** San Francisco.

June 21-25—**AMERICAN MEDICAL ASSOCIATION.** San Francisco.

June 21—**Society for Surgery of the Alimentary Tract.** San Francisco.

June 21—**Society for Vascular Surgery.** San Francisco.

June 21-23—**Society for Investigative Dermatology.** San Francisco.

June 22-24—**American Laryngological, Rhinological and Otological Society.** San Francisco.

June 26-July 1—**Second Hawaii Medical Seminar.** Honolulu.

POSTGRADUATE EDUCATION

AUDIO-DIGEST FOUNDATION

Audio-Digest Foundation (a non-profit subsidary of the California Medical Association) provides by subscription twice-a-month tape-recorded summaries of leading national meetings and authoritative surveys of current literature. Seven separate services in: General Practice, Surgery, Internal Medicine, Obstetrics-Gynecology, Pediatrics, Anesthesiology, and Ophthalmology. A new Catalog of outstanding lectures and panel discussions in all areas of medical practice is also available. For information, write: Mr. Claron L. Oakley, Editor, 619 South Westlake Avenue, Los Angeles.

CALIFORNIA COLLEGE OF MEDICINE

April 13-16—**First International Congress of Ophthalmology.** "Specific Problems in Strabismus," presented in cooperation with the David Michael Eye Foundation. Riviera Hotel, Palm Springs. Monday-Thursday. $135. Contact: Congress of Ophthalmology, CCM, 1721 Griffin Avenue, Los Angeles 90031.

STANFORD UNIVERSITY

Mar. 20-21—**Dermatology of the Infant Child and Adolescent.** Friday-Saturday. $35. Contact: George Wilson, M.D., Clinical Associate Professor, Dept. of Dermatology, Stanford University School of Medicine, 300 Pasteur Drive, Palo Alto.

UNIVERSITY OF CALIFORNIA AT LOS ANGELES

Feb. 21-23—**Advanced Seminars in Reconstructive Surgery** (including Tissue Transplant and Chemotherapy). Friday-Sunday. 9 hours. $100 plus room and meals.

Feb. 21-23—**Proctology.** Veterans Administration Hospital, West Los Angeles, and UCLA. Friday-Sunday. 15½ hours.*

Feb. 26-Mar. 7—**Postgraduate Medical Lecture Series in Mexico City and Merida.** Monday-Friday. 26 hours. $100. Including Merida, $125.

Feb. 29—**Education for Marriage** (for the General Public). Saturday. 7 hours.*

Feb. 29—**Internal Medicine.** Cedars of Lebanon Hospital, Los Angeles. Saturday. 6½ hours.*

Mar. 1—**Surgery.** Cedars of Lebanon Hospital, Los Angeles. Sunday. 6½ hours.*

Mar. 4-May 20—**Psychiatry for Non-Psychiatrists.** Wednesday evenings. 40 hours.*

Mar. 7—**Practical Management of Diseases of the Mouth.** Saturday. 7 hours.*

Mar. 7-Mar. 28—**Postgraduate Medical Lecture Series in Egypt, Lebanon, and Greece.** Monday-Friday. 32 hours. $200.

Mar. 13-15—**Resuscitation.** Harbor General Hospital, Torrance. Friday-Sunday. 18 hours.*

Mar. 14-15—**The Spine—Anatomy, Pathology, Surgery.** Saturday-Sunday. 12 hours.*

April 4-25—**Postgraduate Medical Lecture Series in Japan, Formosa and Hong Kong.** Monday-Friday. 24 hours. $200. (Including Taiwan, $225.)

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*Fee to be announced.

April 6-17 — **Prosthetics - Orthotics.** Monday - Friday. 90 hours. $200.

April 18-19—**A Symposium on Sexual Problems.** Saturday-Sunday. 12 hours.*

April 20-24—**Child Amputee Prosthetics.** Monday-Friday. 45 hours. $125.

May 2-3—**Chemotherapy.** Saturday-Sunday. 12 hours.*

May 16—**Management of Medical Emergencies.** Saturday. 6 hours.*

May 17—**Management of Pediatric Emergencies.** Sunday. 6 hours*

Dates by Arrangement—**Clinical Traineeship**—Anatomy, Anesthesia, Dermatology, Pediatrics, Radioisotopes, Urology: 2 weeks, $150; 4 weeks, $250. Minimum period, 2 weeks.

For information on courses for physicians or ancillary personnel, contact: Thomas H. Sternberg, M.D., Assistant Dean and Head, Department of Continuing Education in Medicine and Health Sciences, U.C.L.A. Medical Center, Los Angeles 24, 478-9711, Ext. 2114.

LOMA LINDA UNIVERSITY

As Arranged—**Traineeships** in clinical and other departments are available by arrangement with department chairmen of the Postgraduate Division. 80 hours minimum.

Anesthesia, 6 months. 250-300 hours. $350.

Pulmonary Diseases—can be arranged.

Continuously—**Illustrated Medical Lectures:** 30-minute tape recordings and accompanying 35-mm filmstrip, 50 to 80 full-color pictures for screen, hand or desk viewer. Available individually or by subscription. 12 or 36 titles per year, all titles produced in one year in any chosen specialty. Projectors and viewers included in subscription plans. Contact: Loma Linda University, Illustrated Medical Lectures, Los Angeles 33.

For course information contact: W. F. Norwood, Ph.D., Assistant Dean and Chairman, Division of Continuing Education, Loma Linda University School of Medicine, 1720 Brooklyn Ave., Los Angeles, California 90033, ANgelus 9-7241, Ext. 214.

PRESBYTERIAN MEDICAL CENTER

March 4-6—**Keratoplasty.** Wednesday-Friday. Registration limited. $100. Contact: Lions Eye Foundation, WEst 1-8000.

For information contact: Arthur Selzer, M.D., chairman, Education Committee, Presbyterian Medical Center, Clay and Webster Streets, San Francisco 15. WEst 1-8000.

UNIVERSITY OF CALIFORNIA, SAN FRANCISCO

Feb. 21-23—**Three Days of Cardiology.** Friday-Sunday. 24 hours. Members: $50. Non-members: $75.

Feb. 24-28—**Course for Physicians in General Practice.** Mount Zion Hospital, San Francisco. Monday-Friday. 32 hours. $100.

Feb. 29-Mar. 1—**Psychotherapeutic Drugs in the Daily Practice of Medicine.** Napa State Hospital. Saturday-Sunday. 16 hours. $20.

Mar. 4-8—**Diagnostic Radiology.** Wednesday-Sunday. 40 hours. $110.

March 14—**Diagnostic Methods in Medicine.** Children's Hospital, San Francisco. Saturday. 7 hours. $15.

April 2-May 7—**Psychiatry for General Practice.** Stockton State Hospital. Thursday evenings. 12 hours. $10.

April 3-4—**Proctology.** Friday-Saturday. 14 hours. $15.

April 9-11—**Endocrinology and Metabolism.** Thursday-Saturday. 20 hours. $50.

April 16-17—**General Surgery.** Thursday-Friday. 14 hours. $50.

Continuously—Courses presented by special arrangement: Principles and Clinical Uses of Radioisotopes (full time, one to three months).

For information on courses for physicians or ancillary personnel, contact: Seymour M. Farber, M.D., Assistant Dean, Dept. of Continuing Education in Medicine and Health Sciences, University of California Medical Center, Room 565-U, San Francisco 22, MOntrose 4-3600, Ext. 179.

UNIVERSITY OF SOUTHERN CALIFORNIA

Mar. 4-May 13—**Pediatric Psychiatry.** Los Angeles County Hospital. Wednesdays. 3:00 p.m.-5:00 p.m. Ten 2-hour sessions. $25.

April 6-11—**Mental Retardation Institute.** Monday-Friday. 7 hours. $50.

April 9-June 11—**Ward Walks in Rare Diseases.** Thursdays. 2 hours weekly. $100.

May 31-June 30—**Third Annual Medical Tours of Europe.** $250.

Aug. 1-12—**Seventh Annual Postgraduate Refresher Course in Hawaii.** $100.

Continuously—**Basic Home Course in Electrocardiography.** One year postgraduate series, ECG interpretation by mail. Fifty-two issues $100. Physicians may register at any time.

Continuously—**Advanced Home Course in Electrocardiography.** One year postgraduate series, ECG interpretation by mail. Fifty-two issues $85. Physicians may register at any time.

For course information contact: Phil R. Manning, M.D., Assoc. Dean, Postgraduate Division. USC School of Medicine, 2025 Zonal Ave., Los Angeles 90033, CApital 5-1511, Ext. 300.

CALIFORNIA MEDICAL ASSOCIATION

Committee on Continuing Medical Education
14th Annual Postgraduate Institutes, 1964

April 10-11—**WEST COAST COUNTIES,** in cooperation with Stanford School of Medicine. Four Half-Day Sessions: **(1) Non-surgical Treatment of Cancer, (2) Infections, (3) Problems in Adolescence, (4) Renal Disease.** Del Monte Lodge, Pebble Beach. Chairman: William B. Wenner, M.D., 726 Cass Street, Monterey.

April 23-24—**NORTH COAST COUNTIES,** in cooperation with UCLA School of Medicine. Brooktrails, Willits.

The Human Kidney in Health and Disease. Chairman: Patrick R. Allanson, M.D., 728 South State Street, Ukiah.

May 7-8—**SAN JOAQUIN COUNTIES,** in cooperation with Loma Linda University School of Medicine, Ahwahnee Hotel, Yosemite. **Gastroenterology.** Chairman: Leo Goodman, M.D., 1341 Wishon Avenue, Fresno.

June 25-27—**SACRAMENTO VALLEY COUNTIES,** in cooperation with USC School of Medicine. **Kidney Disease.** Harvey's Wagon Wheel, Lake Tahoe. Chairman: William Tucker, M.D., 3560 "Jay" Street, Sacramento.

For information regarding Postgraduate Institutes and Circuit Courses, contact: Continuing Medical Education, California Medical Association, 693 Sutter Street, San Francisco 94102. PRospect 6-9400, Ext. 68.

THE PHYSICIAN'S *Bookshelf*

CLINICAL EXAMINATIONS IN NEUROLOGY—Second Edition—Members of the Sections of Neurology and Section of Physiology, Mayo Clinic and Mayo Foundation for Medical Education and Research, Graduate School, University of Minnesota, Rochester, Minnesota: James A. Bastron, M.D.; Reginald G. Bickford, M.B.; Joe R. Brown, M.D.; Edward C. Clark, M.D.; Kendall B. Corbin, M.D.; Norman P. Goldstein, M.D.; Frank M. Howard, Jr., M.D.; Edward H. Lambert, M.D.; Clark H. Millikan, M.D.; Donald W. Mulder, M.D.; E. Douglas Rooke, M.D.; Joseph G. Rushton, M.D.; Robert G. Seikert, M.D.; Juergen E. Thomas, M.D.; and Jack P. Whisnant, M.D. W. B. Saunders Company, West Washington Square, Philadelphia 5, Pa., 1963. 396 pages, $8.50.

This very nicely produced book, which is well illustrated, puts into one volume in a very satisfactory way almost every aspect of the standard neurological examination and those ancillary diagnostic tests which are common to clinical neurology, including certain specialized tests such as electroencephalography, electromyography and diagnostic neuroradiology. This is a book useful for those who have not had their basic grounding in the neurological sciences. It treats no subject in depth but covers the entire breadth of the field. It is disappointing in that it introduces quite provincial methods of grading function such as are utilized at the Mayo Clinic and certain aspects of the book seem to be designed specifically for use by members of that institution rather than other institutions. It also suffers from a lack of any reference material or documentation of various tests which it described. Its format is pleasing. It does a very satisfactory job and will be most useful for the student and general practitioner and early student of neurology but it is not a comprehensive work.

W. Eugene Stern, M.D.

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ANATOMY—A Regional Study of Human Structure—Second Edition—Ernest Gardner, M.D., Wayne State University; Donald J. Gray, Ph.D., Stanford University; and Ronan O'Rahilly, M.Sc., M.D., St. Louis University. Illustrated by Caspar Henselmann. W. B. Saunders Company, Philadelphia and London, 1963. 1006 pages, $17.50.

This textbook of gross anatomy consists of a series of eighty-one concisely written chapters proposed to meet the needs of the undergraduate medical and dental student taking the present day somewhat abbreviated gross anatomy courses. Although the text essentially represents a regional approach, within most of the chapters a systemic presentation of the factual material is offered. A number of the chapters are exceedingly short: Chapter 27 (Surface anatomy of the lower limit) is but two pages in length, Chapter 45 (The Spleen), one full page and others of three to six pages long. The book is written in an easy straightforward style and it contains many diagrams and schematic illustrations along with an excellent series of radiograms. Convenient footnote references make the text also of value to the postgraduate student who may wish to pursue a more thorough analysis of an area in question. Although this text is somewhat shorter than the other "classical" textbooks of gross anatomy, it does not lack in detailed information. Sections dealing with development, functional considerations and practical anatomy break the drone of factual presentation that often has victimized other books on this subject. Especially well organized and lucidly written are the chapters dealing with the abdomen and the pelvis. In this reviewer's opinion the authors were eminently successful in producing a textbook aimed directly for the present day medical and dental student. It is felt that the popularity of this comparatively new book will grow as students and professors in anatomy become better acquainted with its many fine features and the skillful manner in which the authors have glided over minutiae, still maintaining an adequate level of detail.

C. D. Clemente, Ph.D.

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CROSSEN'S SYNOPSIS OF GYNECOLOGY—Sixth Edition—Daniel Winston Beacham, M.D., Associate Professor of Clinical Obstetrics and Gynecology, Tulane University School of Medicine, New Orleans, La.; and Woodard Davis Beacham, M.D., Professor of Clinical Obstetrics and Gynecology, Tulane University School of Medicine, New Orleans, La. The C. V. Mosby Company, St. Louis, Mo., 1963. 371 pages, 106 figures, including 3 in color, $7.50.

In 1932 the "Synopsis of Gynecology" was first published. It is a credit to the authors that three decades and five editions later this volume retains both its original form and its usefulness. As a fitting tribute to the Doctors Crossen, their names have now been incorporated into the title of this most recent edition.

The "Synopsis" is up-to-date with the presentation of subjects such as recent concepts of oogenesis, the role of vaginal cytology in the evaluation of hormone status, steroid metabolic pathways and their disturbances in endocrine disorders, the use of drugs for the induction of ovulation, cancer chemotherapy and developments in the treatment of trichomoniasis. This reviewer was particularly impressed with the authors' attempt to correlate structural anatomy with function, and with the well-presented chapters on the history and physical diagnosis. The medical and psychosomatic aspects of gynecology are given their proper perspective in a field wrongly considered by many to be purely a surgical specialty. A particularly valuable chapter discusses some of the causes of gynecologic malpractice suits and the medico-legal aspects of rape and other problems that may be brought to the attention of the gynecologist. Although somewhat authoritarian in viewpoint, the authors attempt to discuss rationally controversial issues such as the role of surgery in the management of cervical carcinoma, the value of irradiation in treating carcinoma of the endometrium and the merits of prophylactic oophorectomy. One of the few disappointments to this reviewer was the "artist's model" shown in Figure I: only a rough outline on graph paper.

In summary, this is an easy to read, concise presentation that may serve as a handy guide to the pertinent principles of gynecologic diagnosis and management.

Lawrence D. Longo, M.D.

FIRST INTERNATIONAL SYMPOSIUM ON STEREO-ENCEPHALOTOMY (Stereotaxic Surgery). Reprint from "Confinia Neurologica," Vol. 22, No. 3-5, p. 165-396 (1962). Symposium held in Philadelphia, Pa., on October 11-12, 1961, at Temple University Medical Center. Edited by E. A. Spiegel and H. T. Wycis, Philadelphia, Pa. Published by S. Karger A. G., Basel, 1962. 232 pages, 37 figures, 10 tables, $10.50. American Distributor: Albert J. Phiebig, P. O. Box 352, White Plains, N. Y.

This paper-bound monograph reprints the proceedings of the first international meeting devoted entirely to human stereotaxic surgery. Brought together by the founding fathers of human stereotaxis, E. A. Spiegel and H. T. Wycis, workers from nine countries presented 36 papers encompassing localization of deep structures, stimulation and recording techniques, lesion production and quantitation, and therapeutic results.

Localization procedures presented ran the gamut from unsophisticated techniques to carefully planned two-stage procedures with precise instruments and careful radiographic and physiological controls. Fortunately most essayists gave target coordinates (in millimeters) from x-ray visualized intracranial landmarks, though some failed to realize the importance of visualizing at least three points (or two points and a plane) to determine the location of a point within the volume of the brain.

Stimulation and recording techniques were generally agreed to be valuable neurophysiological adjuncts to localization although widely differing results were reported by the various authors. If greater attention were paid to the known requirements for effective stimulation, many apparent disagreements could be resolved.

A wide variety of lesion producing techniques was described including heat, cold, chemical, radiation, ultrasonic and mechanical methods. A few results on the accurate quantitation of tissue destruction were included, though the need for more work in this field is apparent.

The widest area of agreement seems to have been in the therapeutic value of stereotaxic procedures. All the groups reporting found the method to be of great value, particularly in the therapy of extrapyramidal disorders.

The book suffers from a number of typographical errors, most of which are inconsequential (although some, such as that in the formula on page 338 describing cold lesion size, are unfortunate). In summary this volume conveys well the excitement and promise—as well as the confusion—in the field of human stereotaxis. Although many of the presentations are not adequate to provide a definitive picture of the state of the art, the book is essential reading for those who are engaged in this work or who contemplate such an undertaking.

W. Watson Alberts, Ph.D.

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THE FUNDAMENTAL IDEAS OF MEDICINE—A Brief History of Medicine—J. F. A. McManus, M.D., Professor of Pathology, The Experimental Program of Medical Education, Indiana University, Bloomington, Indiana. Charles C. Thomas, Publisher, 301-327 East Lawrence Avenue, Springfield, Ill., 1963. 115 pages, $4.75.

This small monograph summarizes what the author regards as the important philosophies and ideas involving medicine up to current times.

There are nine chapters. The first one notes the uses of history; the second the fact that since more than 3000 years B.C. different ideas and theories have been propounded. The important place of the Hippocratic school is stressed in this section. (While paying great deference to Hippocrates, he does not point out the paradox of our common nonobservance of that part of the oath which calls upon us to teach certain disciples without charge. "I swear by Apollo the physician and Aesculapius . . . that according to my ability and judgment I will teach them (the offspring of my teacher) this art if they shall wish to learn it without fee or stipulation . . .") In the next few chapters the influence of Thales beginning in 6th century, B.C. is duly noted (the leaders of this school suggested that everything in the world was made of water . . . not too far from fact). Aristotle concluded that shape is determined by function, and of course had great influence on the Alexandrian school. After many years Galileo bursts upon the scene in the 16th century and "changes the conceptual framework in terms of which man investigated the natural world as a whole".

Boerhaave, in the 17th, developed the method of clinical teaching familiar to us today. Haller, the great physiologist, was one of his pupils; another was Cullen, who influenced the Hunter brothers, and through them Bright and Rush. Sydenham in the same century extended this technique of bedside teaching.

In the final section the author points out that "There have been great mistakes (in patient care) and sombre episodes not infrequent in medical history—the horrendous concoctions of the pharmacopoeia, the gallons of blood let in the name of rational therapy . . . and so forth". He quotes Snapper that "Every generation of physicians has over-estimated the progress made by medicine in its own time".

There are short biographical notes stretching from Adanson to Wunderlich, and an excellent list of suggested reading for those who would delve more thoroughly into medical history.

Well illustrated and printed; a good bedside table book.

L. Henry Garland, M.D.

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THE BIOLOGY OF MENTAL DEFECT—2nd Edition, (Completely Revised with the assistance of J. M. Berg, M.B., M.Sc., and Helen Lang-Brown)—L. S. Penrose, M.D., F.R.C.P., F.R.S.; with a preface by J. B. S. Haldane, D.Sc., F.R.S. Grune & Stratton, Inc., 381 Park Avenue South, New York 16, N.Y., 1963. 374 pages, $6.75.

Since this is now a standard work in the field of mental deficiency, this revision is most welcome. In this expanded version new material concerning the genetic problems of mental retardation is very well spelled out. The bibliography, as in previous editions, is excellent.

What is missing, from the American point of view, is a better discussion of the cultural facets of mental deficiency. This subject is only partly covered along with the discussion of those forms of defect that result from mental illness. This does not fully reflect current American thinking either as to the extent of the problem nor its function within society. Otherwise, this book continues to be a standard and highly acceptable text.

Henry H. Work, M.D.

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AN ATLAS OF ELECTROCARDIOGRAPHY—Hugo Roesler, M.D., F.A.C.P., Associate Professor of Medicine (Cardiology), Temple University School of Medicine, Philadelphia; and Evan Fletcher, M.D., M.R.C.P., Consultant Physician, Belfast City Hospital, Northern Ireland. The Williams & Wilkins Company, Baltimore 2, Md., 1963. 700 pages, $28.00.

This Atlas is a comprehensive account of the electrocardiograms of 400 patients with autopsy data on 136. The authors believe that a critical analysis of a large number of tracings correlated with clinical and pathological data is the only way a useful knowledge of clinical electrocardiography can be acquired. This large volume (700 pages) constitutes implementation of that belief.

The book is divided into ten sections, of which the largest (as seems appropriate) is that dealing with myocardial infarction. Each section is preceded by a brief resume. Each electrocardiogram has a detailed interpretation of the limb leads and of the chest leads, followed by the ECG diagnosis, the clinical data, and general comment. As a rule, the electrocardiographic reproductions are clear but occasionally, especially in records with many serial tracings, the reproductions are quite small although distinct. The interpretations reflect contemporary opinion, involve physiological thinking and often reflect orientation with respect to vector concepts.

The authors are obviously experienced clinicians and expert electrocardiographers. The senior author died in 1961 while the manuscript was being prepared for the publisher.

The major criticism of the book, especially for individuals not well grounded in electrocardiography, is the absence of data in each section of the criteria for the diagnosis of the various abnormalities. The various criteria are woven throughout the interpretation and comments but one is uncertain what the criteria in general are for each of the diagnoses. This could either be appended at the end of the section in a table or could be written in a summary. The reviewer believes this would enhance the value of the book.

There is a good deal of repetition in that a variety of similar cardiograms are displayed in the various sections but it is apparent that the authors believe that this repetition in an atlas adds to the reader's experience.

Physicians interested in enhancing their knowledge of clinical electrocardiography and who use electrocardiograms (as they should) as an adjunct in the clinical evaluation of their patients, will learn a great deal from this book. It requires, however, study in conjunction with a standard text of electrocardiography in order to have a more systematic approach to the subject.

MAURICE SOKOLOW, M.D.

* * *

MECHANICS OF DEMYELINATION—edited by Augustus S. Rose, M.D., Professor of Medicine (Neurology), and Carl M. Pearson, M.D., Associate Professor of Medicine, University of California (Los Angeles) School of Medicine. McGraw-Hill Book Company, Inc., The Blakiston Division, New York, Toronto, London, 1963. 253 pages, $13.50.

This book is a record of papers and discussions of several speakers at a conference at UCLA in 1962. The five guest speakers were Drs. John N. Cumings, Robert A. Good, Fritiof S. Sjostrand, Byron H. Waksman, and Abner Wolf. Discussed were "The structure and formation of the myelin sheath," "The chemistry of myelin and some aspects of myelination," "Some biochemical considerations regarding different forms of demyelination," "Spontaneous human and experimental simian demyelinating disease," "Hypersensitivity mechanisms," "Immunologic competence," "Experimental allergic encephalomyelitis," and "experimental immunologic disease of the peripheral nervous system."

Not only is there a summary of the work of these contributors, but there is also a review of work in the fields and an excellent bibliography. The great value of this book is the amount of information it presents concerning fundamental research in demyelinating disease. This is of particular value to those working in such fields and the many questions asked with few answers can well serve as a stimulus for research.

For those in clinical neurology this collection of information and reviews affords an excellent point of observation of the laboratory approach to these demyelinating diseases of the nervous system, which still remain an unsolved problem.

The chapters on "Hypersensitivity mechanisms in man and animals" and on "Immunologic Competence" present fundamentals of immunology and immunologic mechanisms and up-to-date concepts of hypersensitivity and autoimmune disease. These will be of interest and value to readers not concerned directly with neurology or neurological research. The last 30 pages of this 250-page volume are given to panel discussion. This is particularly interesting as it clearly reveals the many unsolved questions and also the concepts underlying certain approaches to attempts at solutions to these problems and also the great defects in the mass knowledge available at present.

This is a most important collection of information, opinions, and concepts regarding these fundamental problems underlying demyelinating disease of man and animals.

DONALD MACRAE, M.D.

* * *

PATHOGENESIS OF ESSENTIAL HYPERTENSION—Proceedings of the Joint W. H. O.-Czechoslovak Cardiological Society Symposium, Prague, May 22nd to 29th, 1960. Chairman: C. Heymans, Ghent; Vice-Chairmen: V. V. Parin, Moscow; and H. A. Schroeder, Brattleboro, U. S. A. Editors: J. H. Cort, V. Fencl, Z. Hejl, J. Jirka, the Institute for Cardiovascular Research, Prague. A Pergamon Press Book, The Macmillan Company, 60 Fifth Avenue, New York 11, 1962. (Publication date: August 26, 1963) 477 pages, $15.00.

This volume is the proceedings of the Joint W. H. O.—Czechoslovak Cardiological Society. These proceedings were held in Prague in May, 1960, and represented an attempt to clarify the existing knowledge on the pathogenesis of essential hypertension. The format of the meeting is to be commended in that for each working session there were two formal lectures followed by long general discussion allowing effective critique of the various facets of essential hypertension. The participants, therefore, not only presented their own contributions but were able to actively discuss all the other presentations.

The participants consisted of active research workers in England, France, Russia, Hungary, Italy, Czechoslovakia, Sweden, and Switzerland. The proceedings probably represent the best analysis of international thought currently available on the subject. Each paper was presented in the individual's own language but has been translated into English. At the end of the meeting, a summary report prepared under the direction of Professor Clifford Wilson concludes the volume.

Areas of hypertension covered include diagnosis, epidemiology, the central nervous system and hypertension, hemodynamics, vessel wall factors, and metabolic factors. Each paper is well illustrated and has a pertinent bibliography. The level of the lectures and the discussion are of a high order and during the discussion differences of opinion were aired.

In general, the volume can be highly recommended as an authoritative account of the present status of the pathogenesis of essential hypertension as viewed by authorities from many different parts of the world. Many of the opinions expressed by workers whose native language is not English will be of particular interest to American readers.

MAURICE SOKOLOW, M.D.

* * *

EARLY CANCER—Prevention, Detection, Course, Treatment—Leonard B. Goldman, M.D., Chairman, Tumor Conference and Director, Radiation Medicine Department, Queens Hospital Center; Consultant Radiation Therapist, Flushing, Booth Memorial, St. Joseph's (Far Rockaway), South Nassau Communities and Peninsula General Hospitals, New York. Formerly, Clinical Professor of Radiotherapy, New York Medical College, Flower and Fifth Avenue Hospitals. Grune & Stratton, Inc., 381 Park Avenue South, New York, N.Y., 10016, 1963. 324 pages, $12.50.

This small book is divided into 12 chapters. The opening chapter deals with "general considerations" of the diagnosis and treatment of cancer. The remaining 11 sections deal with tumors of specific sites such as skin, brain, chest and so forth. The final chapter deals with sarcoma of soft tissues and tumors of bone.

While the title is "Early Cancer" many of the illustrations are of advanced disease. Undoubtedly the author meant "localized cancer", since it is now well known that many forms of spontaneous human cancer are no longer "early" by the time they are diagnosable.

It is to be regretted that there is very little utilization of staging of tumors; neither the commonly accepted clinical staging into four degrees of advancement, nor the more modern staging based on T. N. M. (size of primary *tumor*, presence or absence of palpable *nodes*, and the presence or absence of detectable *metastasis*) are utilized. As a result, therapeutic suggestions are couched in very general terms and not related to the stage or extent of disease at the time of recognition.

The author wisely stresses the importance of diagnosis of cervical cancer while localized, but appears to place unwarranted faith in the virtues of telecobalt therapy. Nowhere is mentioned the fact that the only controlled studies of standard high voltage roentgen therapy (orthovoltage x-rays) versus megavoltage x-rays (cobalt gamma rays or linear accelerator x-rays) were made in Manchester, England during the last decade. These studies by Paterson and Easson fail to show any improvement in five year cure rate of carcinoma of the cervix or carcinoma of the bladder with megavoltage.

This volume may be of some interest to nurses, but scarcely to practicing physicians.

L. Henry Garland, M.D.

* * *

PROGRESS IN GYNECOLOGY—Volume IV—edited by Joe V. Meigs, M.D., Emeritus Professor of Gynecology, Harvard Medical School; Visiting Consulting Surgeon, Massachusetts General Hospital; Visiting Consulting Gynecologist, Vincent Memorial Hospital, Boston, Mass.; and Somers H. Sturgis, M.D., Surgeon (Gynecology), Peter Bent Brigham Hospital; Clinical Professor of Gynecology, Harvard Medical School, Boston, Mass. Grune & Stratton, Inc., 381 Park Avenue South, New York 16, N.Y., 1963. 676 pages, $16.75.

Volume IV of "Progress in Gynecology", edited by Joe V. Meigs, M.D. and Somers H. Sturgis, M.D. of Boston, Massa-Chusetts, was published recently by Grune & Stratton of New York. Volume IV covers a six year period of advances in thinking about biologic, diagnostic and therapeutic problems encountered daily in the practice of gynecology and obstetrics and, as such, is a valuable source of information and a worthy addition to volume III published in 1957. The contributors hail largely from the New England states, especially from Boston and New York. Seven well known European Gynecologists, two Canadians, two West Coast teachers and one East Indian surgeon have added important observations. The Editors state that they do not always concur in the statements made by the individual authors but selected them because of new ideas set forth.

The subject matter covers a wide range of problems ranging from "Growth and Physiology" through ten chapters to "Preoperative and Postoperative Complications". Fluhmann presents a new version of the fundamental glandular structures of the cervix which calls for a revision of growth observations in carcinoma in situ. Hermaphroditism, Turner's and Klinefelter's syndromes characterized by chromosomal variations are made easy to understand by Federman. Electron microscopy of the endometrium is introduced as a reliable method with which to interpret hormonal responses(Clyman), while injurious effects of irradiation on the developing embryo and fetus are described by Hicks and D'Amato.

In the field of diagnosis Antoine and Grünberger cite their experiences with colpomicroscopy; the Grahams point out that cytologic selection facilitates the choice of the most promising type of therapy for cervical cancer; and Castellanos and Sturgis propose cytologic studies of urinary sediments to evaluate endocrine levels, equally as reliable as vaginal cytology.

Concerning functional disorders, particularly dysmenorrhea, Mann discusses their mechanism by means of cineradiographic studies, helpful in selecting the proper method of control. McArthur's studies of para-endocrine phenomena in relation to the differentiation of tumor cells sheds light on the reason for failure of such cells to respond to normal growth control. Pituitary gonadotrophins (Taymor) and the induction of ovulation by them (Gemzell) calls for wider studies. The inter-relation of estrogens and progestins (Goldzieher) and the differential diagnosis of virilizing disorders (Hermann) make interesting reading. The problem of habitual abortion is discussed in detail by Tupper and Weil, and Shirodcar presents his well illustrated version of surgical correction of this condition. The recent studies of toxoplasmosis in relation to abortion are presented in detail (Remington) and demand attention.

Benign tumor growth, endometriosis and germ cell tumors are detailed by Kistner, Scully and Meigs et al. The latter also described in detail the diagnosis and dangers encountered in treating anterior meningocele.

There is little new in the discussions of the various types of treatment of malignant growth of the generative organs (Brunschwig; Yahia et al; Kottmeier, Kelley and Baker; Parsons and Friedell). However, figures presented by them and their individual approaches to therapy make interesting reading. Gray's analysis of the histogenesis of ovarian cancer and Randall's conservative attitude toward the conservation of ovaries deserve special attention.

Among the various articles on operative technique, particularly in regard to the avoidance of ureteral fistulae (Franc Novak), the use of lymphangiography (Viamonte) as an aid to radical therapy and the newer version of the Schauta-Amreich vaginal radical hysterectomy offer many helpful hints. Likewise, newer methods designed to improve technical measures in correcting stress incontinence are well worth reading (Green; Burch). Various complications such as lymphocyst, ileus of the colon and the prevention of urologic complications of radical surgery are analyzed by Rutledge, Morton and Schwartz, and Thomas Green.

"Progress in Gynecology" volume IV, is a valuable addition to one's reference library.

It is with deep regret that your reviewer reports the recent death of Dr. Joe V. Meigs.

Ludwig A. Emge, M.D.

* * *

APPLIED ANATOMY OF THE EYE—Alfred Kestenbaum, M.D., Formerly Associate Clinical Professor for Ophthalmology at the New York University; Neuro-ophthalmic Surgeon at New York Eye and Ear Infirmary; Associate Ophthalmologist at Bellevue Hospital, City Hospital, and Goldwater Memorial Hospital. Grune & Stratton, Inc., 381 Park Avenue South, New York 16, N.Y., 1963. 292 pages, $12.50.

The author of this book passed away before its final publication. The editors were fortunate in having Dr. Arthur Linksz provide editorial assistance in finalizing the publication.

The book is essentially a digest of that which is best from several of the well-known sources on ocular anatomy.

Anatomical facts are organized and discussed according to their clinical relevancy. Some interesting new surgical concepts are introduced, such as that of a "surgical equator."

Both gross and minute anatomical considerations are discussed. The book is essentially a well-organized, condensation of what the student must know about the anatomy of the eye, and has the added advantage of pertinent remarks regarding clinical applications.

Arthur Jampolsky, M.D.

93rd

*

annual session
PROGRAM

Biltmore Hotel, Los Angeles
MARCH 22 to 25, 1964

*

Scientific Sessions • Technical Exhibits
Motion Picture Symposia
Closed-Circuit Television Symposia
Meetings of the House of Delegates

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CALIFORNIA MEDICAL ASSOCIATION

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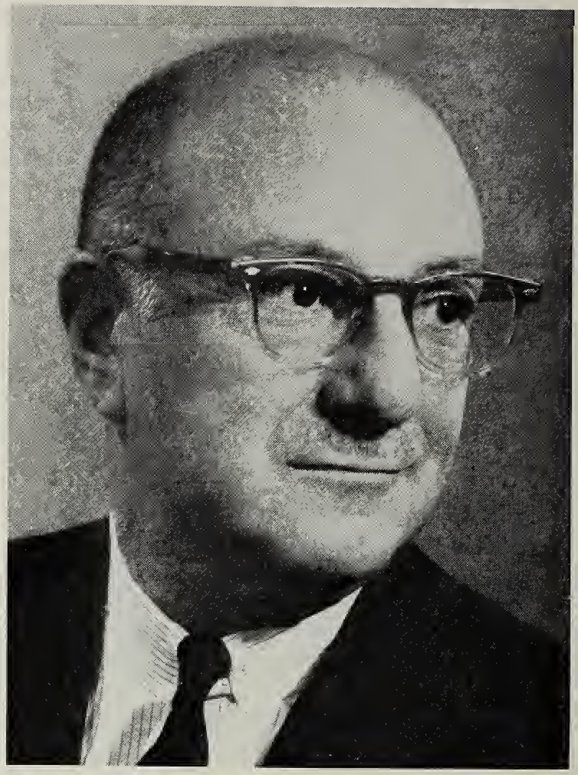
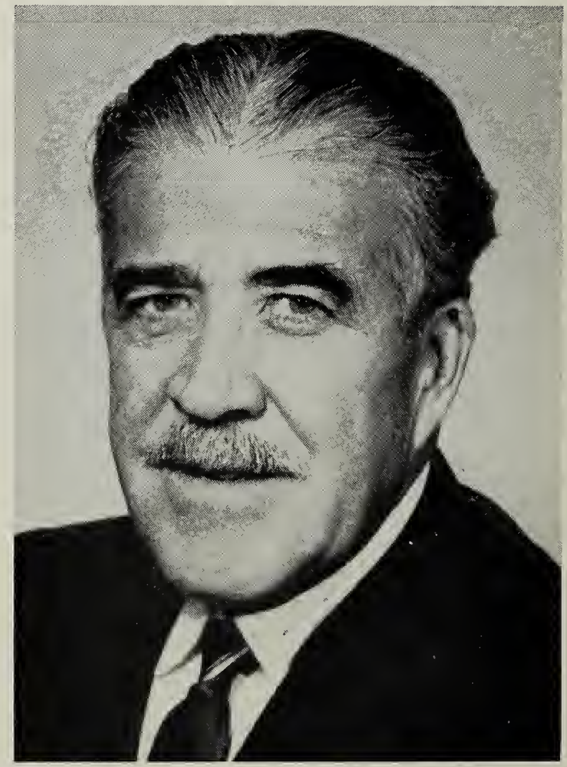


SAMUEL R.
Sherman
president



JAMES C.
Doyle
president-elect

Scientific Program

CALIFORNIA MEDICAL ASSOCIATION

Ninety-third Annual Session

Biltmore Hotel
LOS ANGELES
March 22 to 25*
1964

*House of Delegates
Opening Meeting
Saturday, March 21
7:00 p.m.

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COMMITTEE ON CANCER
CALIFORNIA MEDICAL ASSOCIATION

PRE-CONVENTION CONFERENCES

Los Angeles • Saturday, March 21, 1964

BILTMORE HOTEL

Radiology

Ballroom Foyer

Chairman, A. K. BRINEY, M.D., Whittier
Secretary, ELMER NG, M.D., Redwood City

THERAPY SESSION—9:30 a.m. to 11:30 a.m.

Cases with specific therapy problems will be presented. The audience is asked to participate actively.

DIAGNOSTIC SESSION—1:30 p.m. to 3:30 p.m.

Diagnostic cases with histories and films will be presented. Cases have been selected to illustrate specific problems in the radiological and clinical diagnosis of cancer. Audience participation and discussion are urgently requested.

Pathology

9:00 a.m. to Noon—2:00 p.m. to 4:30 p.m.

Ballroom Foyer

CONFERENCE ON ORAL CANCER

Those who wish slides and protocols for the conference (cost $25.00) are requested to pre-register with Weldon K. Bullock, M.D., Registrar, Tumor Tissue Registry, C.M.A. Committee on Cancer, Los Angeles County Hospital, 1200 N. State Street, Los Angeles 33. The $25 fee includes registration. For those who wish to attend the conference the fee is $25. There is no charge for residents and interns.

4:45 p.m.

Semi-annual meeting of California Society of Pathologists, D. A. DeSanto, M.D., San Diego, presiding.

7:00 p.m.

Dinner meeting of the California Society of Pathologists.

Other Meetings and Entertainment

- **SATURDAY, MARCH 21**

C.M.A. HOUSE OF DELEGATES OPENING SESSION—Biltmore Bowl, 7:00 p.m.

C.M.A. Cancer Commission Conference on Pathology—Ballroom, 9:00 a.m. to 5:00 p.m.

C.M.A. Cancer Commission Conference on Radiology—Ballroom Foyer, 9:30 a.m. to 5:00 p.m.

American College of Chest Physicians—Conference Room #1, 9:00 a.m. to 5:00 p.m. and 8:00 p.m. to 10:00 p.m.

California Society of Anesthesiology—Conference Room #4, 9:00 a.m. to 5:00 p.m.

- **SUNDAY, MARCH 22**

California Radiological Society Annual Meeting—Conference Room #2, 3:00 p.m.

- **MONDAY, MARCH 23**

C.M.A. Scientific Board Dinner Meeting—Conference Room #8, 6:00 p.m.

C.M.A. Section on Allergy and California Society of Allergy Luncheon—Conference Room #5, 12:15 p.m.

C.M.A. Section on Obstetrics and Gynecology and California Division of American College of Obstetrics and Gynecology Luncheon—Conference Room #2, 12:00 Noon.

AMPAC Meeting—Galeria Room, 3:00 p.m.

Bureau of Medical Economics—Conference Room #3, 9:30 a.m. to 5:00 p.m.

- **TUESDAY, MARCH 24**

A.M.A. Delegates Meeting—Ballroom Foyer, 2:00 p.m.

Disaster Medical Care with Allied Health — Conference Room #3, 9:30 a.m. to 12:00 Noon.

Disaster Medical Care Luncheon—Conference Room #7, Noon.

Past Presidents' Luncheon—Conference Room #5, Noon.

"We must provide hospital insurance for our older citizens, financed by every worker and his employer under Social Security..."

LYNDON B. JOHNSON, JAN. 8, 1964

WHAT WILL CONGRESS DO?

WHERE IS KING-ANDERSON LEGISLATION HEADED?

WHAT IS THE OUTLOOK FOR MEDICINE IN 1964?

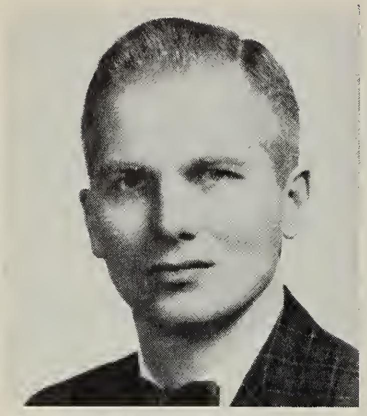
WHAT IS AMPAC DOING?

Get the Answers, Attend the Meeting

AMPAC REPORTS

All physicians, wives and friends are invited to attend the meeting of The California Volunteers for the American Medical Political Action Committee

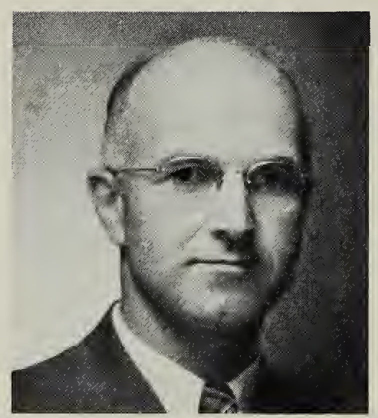
Monday, March 23 • 3:00 P.M. • Galeria Room • Biltmore



FRANK J. DIXON

Guest Speakers

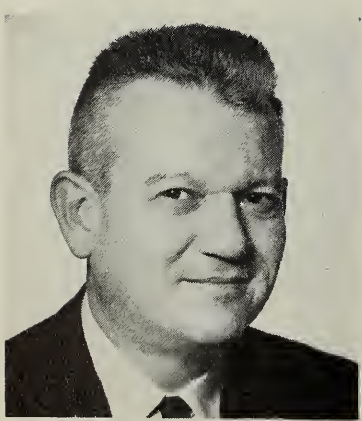
THOMAS F. DOUGHERTY



JOSEPH E. MURRAY

JONATHAN W. UHR

ROBERT A. GOOD



DONALD G. McKAY

- FRANK J. DIXON, M.D., Head, Division of Experimental Pathology, Scripps Clinic & Research Foundation, La Jolla.

- THOS. F. DOUGHERTY, Ph.D., Professor and Head, Department of Anatomy, and Director of Radiobiology Laboratory, University of Utah College of Medicine, Salt Lake City.

- ROBERT A. GOOD, M.D., American Legion Memorial Heart Research Professor of Pediatrics and Professor of Microbiology, University of Minnesota Medical School, Minneapolis.

- DONALD G. McKAY, M.D., Delafield Professor and Chairman, Department of Pathology, College of Physicians and Surgeons of Columbia University, New York City.

- JOSEPH E. MURRAY, M.D., Assistant Clinical Professor of Surgery, Harvard Medical School; and Senior Associate in Plastic Surgery, Peter Bent Brigham Hospital, Boston.

- JONATHAN W. UHR, M.D., Associate Professor of Medicine, New York University School of Medicine; and Director, Irvington House Institute for Rheumatic Fever and Allied Diseases, New York City.

Guest Speakers

INTERNAL MEDICINE

- JOSEPH J. TOMASHEFSKI, M.D., Assistant Professor of Medicine and Physiology, Ohio State University College of Medicine; Chief of Research, Ohio Tuberculosis Hospital, Columbus.

- PETER F. BARLOW, M.D., Former Assistant Professor of Internal Medicine and Postgraduate Medicine, University of Michigan School of Medicine, Ann Arbor.

- CUTTING B. FAVOUR, M.D., Chief, Department of Physiology, National Jewish Hospital, Denver.

- THEODORE H. NOEHREN, M.D., Associate Professor of Internal Medicine, State University of New York at Buffalo School of Medicine, Buffalo.

Special Guests of Sections

ALLERGY

- ALVIN WERT, M.D., Associate Clinical Professor of Pediatrics and Chief of Pediatric Allergy, University of Oregon Medical School, Portland, Oregon.

RADIOLOGY

- BERTRAM R. GIRDANY, M.D., Professor of Radiology, University of Pittsburgh, Pittsburgh, Pa.

REGISTRATION

Registration and information desks are located in the Galeria. *All members, guests, and visitors are requested to register immediately on arrival.* There is no charge for registration. Registration desks are open Saturday through Wednesday. *Admission to the general and section sessions and exhibit area is by badge only.* Members wishing to vote in specialty sections must indicate appropriate section when registering; voting in other sections will not be allowed.

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Information

BADGES. It is important that badges be worn at all times. Admission to scientific meetings is by badge only.

COUNCIL. The first meeting of the Council will be held Saturday, March 21, at 9:30 a.m. in the Galeria Room. Further meetings will be held each morning at 7:30 a.m. in Conference Room #10.

DELEGATES. For list of delegates, meeting times, places and agenda, see pages 45 to 51.

EMERGENCY CALLS AND MESSAGES. Convention Emergency Call Number: 624-7581—8:30 a.m. to 5:00 p.m., Saturday, March 21 to Wednesday, March 25.

MESSAGE CENTER (624-7581) — *Provided through the courtesy of the Pacific Telephone and Telegraph Company* —Registration Desk, Galeria—Open 8:30 a.m. to 5:00 p.m. —The Association will *attempt* to transmit messages to the individual physician. Each physician should notify his own office of the exact times and meetings he plans to attend, and the convention number.

EXHIBITS. Technical Exhibits—Rex Room. See pages 36 to 44.

Motion Picture Symposia will be shown in the Music Room. See program synopsis, page 34.

Television Symposia will be shown in the Music Room. See program synopsis, page 34.

You are urged to visit and attend all exhibits.

MEETING TIMES AND PLACES. See chart on page 11 for exact times and places of general and section meetings.

REGISTRATION. Registration and information desks are located in the Galeria. *All members, guests, and visitors are requested to register immediately on arrival.* There is no charge for registration. Registration desks are open Saturday through Wednesday. *Admission to the general and section sessions and exhibit area is by badge only.* Members wishing to vote in specialty sections must indicate appropriate section when registering; voting in other sections will not be allowed.

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C.M.A. ANNUAL MEETING—1964 SCIENTIFIC SESSIONS

LOCATION	Sunday, March 22		Monday, March 23		Tuesday, March 24		Wednesday, March 25	
BILTMORE HOTEL	A.M.	P.M.	A.M.	P.M.	A.M.	P.M.	A.M.	P.M.
Biltmore Bowl						**4:30 p.m.*** **House of Delegates**	**9:00 a.m.** **House of Delegates**	
Ballroom	**9:30 a.m.** Obstetrics and Gynecology General Practice Pediatrics	**2:00 p.m.** General Meeting Biological Basis of Immunology		**2:00 p.m.** General Meeting Tissue Transplantation	**9:30 a.m.** General Meeting Clinical Implications of Immunology and Autoimmunity			
Conference Room 1	**9:30 a.m.** Allergy Internal Medicine		**9:30 a.m.** Dermatology Eye	**2:00 p.m.** Physical Medicine		**2:00 p.m.** **Symposium** Disaster Medical Care	**9:30 a.m.** Psychiatry and Neurology General Practice	**2:00 p.m.** General Practice Pediatrics Preventive Medicine
Conference Room 2	**9:30 a.m.** Radiology	**2:00 p.m.** Radiology	**12 Noon** Obstetrics and Gynecology Luncheon	**2:00 p.m.** Obstetrics and Gynecology		**2:00 p.m.** Internal Medicine		**2:00 p.m.** Psychiatry and Neurology
Conference Room 4	**9:30 a.m.** Pathology		**9:30 a.m.** Allergy			**2:00 p.m.** Urology		
Conference Room 5				**12:15 p.m.** Allergy Luncheon & Business Meeting				
Conference Room 8	**9:30 a.m.** Anesthesiology	**2:00 p.m.** Anesthesiology		**6:00 p.m.** Scientific Board				
Conference Room 9	**9:30 a.m.** Ear, Nose & Throat						**9:30 a.m.** Preventive Medicine	
Conference Room 10		**12:30 p.m.** Pediatrics Luncheon		**12:30 p.m.** Eye Business Meeting				
Ballroom Foyer	**9:30 a.m.** General Surgery							
Galeria Room	**9:30 a.m.** Orthopedics		**9:30 a.m.** Industrial Medicine General Practice Physical Medicine					
Music Room		**Film Symposia** **2:00 p.m.** Surgery	**9:00 a.m.** Closed Circuit Television	**Film Symposia** **2:00 p.m.** Ophthalmology **3:00 p.m.** Medicine	**9:00 a.m.** Closed Circuit Television	**Film Symposia** **2:00 p.m.** Medicine **4:00 p.m.** Urology	**9:00 a.m.** Closed Circuit Television	**Film Symposia** **2:00 p.m.** General and Psychiatry

Technical Exhibits—Rex Room

***Opening Session of the House of Delegates, Saturday, March 21, at 7:00 p.m. in Biltmore Bowl**

Council of the C.M.A.—Meets Saturday, 10:00 a.m., Galeria Room, and daily at 7:30 a.m. in Conference Room 10.

SCIENTIFIC SESSIONS • General Meetings

FIRST GENERAL MEETING

SUNDAY, MARCH 22

2:00 p.m.—Ballroom

Biological Basis of Immunology

Moderator: Victor Richards, M.D., San Francisco

2:00—**The Thymus in Immunology**—Robert A. Good, M.D., American Legion Memorial Heart Research Professor of Pediatrics and Professor of Microbiology, University of Minnesota Medical School, Minneapolis, by invitation.

2:40— **Panel Discussion**

Moderator: Sidney Raffel, M.D., Professor and Executive, Department of Medical Microbiology, Stanford University, Palo Alto, by invitation.

Members of the Panel: Ray D. Owen, Ph.D., Chairman, Division of Biology, California Institute of Technology, Pasadena, by invitation; Frank J. Dixon, M.D., Head, Division of Experimental Pathology, Scripps Clinic & Research Foundation, La Jolla, by invitation; Robert A. Good, M.D., Minneapolis, by invitation.

3:20—**The Pathogenic Mechanisms Operative in Immunologic Reactions**—Frank J. Dixon, M.D., La Jolla, by invitation.

4:00— **Panel Discussion**

Moderator: H. Hugh Fudenberg, M.D., Associate Professor of Medicine, University of California School of Medicine, San Francisco, by invitation.

Members of the Panel: Dan H. Campbell, Ph.D., Professor of Immunochemistry, California Institute of Technology, Pasadena, by invitation; Frank J. Dixon, M.D., La Jolla, by invitation; Robert A. Good, M.D., Minneapolis, by invitation.

SECOND GENERAL MEETING

MONDAY, MARCH 23

2:00 p.m.—Ballroom

Tissue Transplantation

Moderator: George C. Griffith, M.D., Los Angeles

2:00—**Immunological Mechanisms Involved in Transplantation Immunity**—Jonathan W. Uhr, M.D., Associate Professor of Medicine, New York University School of Medicine; and Director, Irvington House Institute for Rheumatic Fever and Allied Diseases, New York City, by invitation.

2:40— **Panel Discussion**

Moderator: Willard E. Goodwin, M.D., Professor of Surgery, University of California School of Medicine, Los Angeles.

Members of the Panel: Charles G. Craddock, Jr., M.D., Professor of Medicine, University of California School of Medicine, Los Angeles; Jonathan W.

SECOND GENERAL MEETING *(Cont.)*

Uhr, M.D., New York City, by invitation; Joseph E. Murray, M.D., Assistant Clinical Professor of Surgery, Harvard Medical School, Boston, by invitation.

3:20—**Mechanism of Action of Immunosuppressive Drug Therapy in Kidney Transplants**—Joseph E. Murray, M.D., Boston, by invitation.

4:00— **Panel Discussion**

Moderator: Ernest Jawetz, M.D., Professor of Microbiology, University of California School of Medicine, San Francisco.

Members of the Panel: John S. Najarian, M.D., Assistant Professor of Surgery, Director of Research Laboratories, University of California School of Medicine, San Francisco, by invitation; Jonathan W. Uhr, M.D., New York City, by invitation; Joseph E. Murray, M.D., Boston, by invitation.

THIRD GENERAL MEETING

TUESDAY, MARCH 24

9:30 a.m.—Ballroom

Clinical Implications of Immunology and Autoimmunity

Moderator: Lowell A. Rantz, M.D., Palo Alto

9:30—**Hormonal Influences on Antibody Synthesis and Allergic Phenomena**—Thomas F. Dougherty, Ph.D., Professor and Head, Department of Anatomy, and Director of Radiobiology Laboratory, University of Utah College of Medicine, Salt Lake City, by invitation.

10:10— **Panel Discussion**

Moderator: Halsted Holman, M.D., Professor of Medicine, Stanford University School of Medicine, Palo Alto, by invitation.

Members of the Panel: Francis S. Greenspan, M.D., Associate Professor of Medicine and Associate Research Physician, University of California School of Medicine, San Francisco; Thomas F. Dougherty, Ph.D., Salt Lake City, by invitation; Donald G. McKay, M.D., Delafield Professor and Chairman, Department of Pathology, College of Physicians and Surgeons of Columbia University, New York City, by invitation.

10:50—**Disseminated Intravascular Coagulation in Diseases of Hypersensitivity**—Donald G. McKay, M.D., New York City, by invitation.

11:30— **Panel Discussion**

Moderator: Victor Richards, M.D., Chief of Surgery, Presbyterian Medical Center, San Francisco.

Members of the Panel: Edward R. Arquilla, M.D., Associate Professor of Pathology, University of California School of Medicine, Los Angeles, by invitation; Thomas F. Dougherty, Ph.D., Salt Lake City, by invitation; Donald G. McKay, M.D., New York City, by invitation.

Continued on Next Page

SPECIAL MEETING

TUESDAY, MARCH 24

2:00 p.m.—Conference Room 1

Symposium

Disaster Medical Care

General Chairman: Justin J. Stein, M.D., Los Angeles

Presiding: Wayne Chesbro, M.D., Berkeley

2:00—**Greetings**—Samuel R. Sherman, M.D., President, California Medical Association, San Francisco.

2:05—**Panel Discussion:**
The Present Status of Disaster Medical Care Planning

1. **National Level**—Frank F. Schade, M.D., Los Angeles, member, A.M.A. Committee on Disaster Medical Care.
2. **State Level**—Wayne Chesbro, M.D., Berkeley, member, C.M.A. Committee on Disaster Medical Care.
3. **Local Level**—Donald E. Barker, M.D., Van Nuys, member, LACMA Committee on Disaster Medical Care.

2:20—**The Community and County Medical Self-Help Program**—Charles C. Henderson, M.D., San Mateo.

2:40—**Medical and Disaster Communications** — Captain C.B. McMurphy, Oakland, Captain, Division of Communications, Alameda County Sheriff's Department, by invitation.

3:40—**Surprise Realistic Mock Disasters—The Most Effective Means of Disaster Training**—Colonel Ralph P. Campanale, USAF, MC, Assistant Surgeon, Western Transport Air Force (MATS), Travis Air Force Base, by invitation.

4:40—**Summary of the Symposium**—Wayne Chesbro, M.D., Berkeley.

QUALIFICATIONS/REQUIREMENTS FOR REGISTRATION

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(b) Medical students will be admitted upon presentation of credentials from their medical schools identifying them as medical students. (A membership card of the Student American Medical Association or letter from their dean's office.)

(c) Medical secretaries will be admitted upon presentation of a letter from the physician employer.

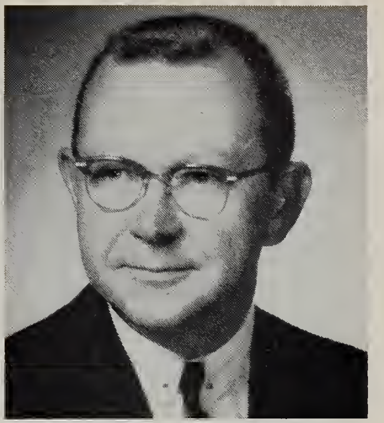
(d) Pharmacist mates and other military personnel of a like grade will be admitted upon presentation of a letter requesting their admittance, written by their commanding officer.

(e) Dentists (D.D.S.), doctors of veterinary medicine (D.V.M.), registered nurses (R.N.), student nurses, x-ray technicians, laboratory technicians, allied public health personnel, and others will be admitted provided they have proper identification.

(f) All questions on admission will be passed upon by a member of the Committee on Registration who will be present at the desk.

INTERNAL MEDICINE

Chairman	Harney M. Cordua, Jr., M.D., San Diego
Secretary	James H. Thompson, M.D., San Francisco
Assistant Secretary	Walter P. Martin, M.D., Long Beach



HARNEY M. CORDUA, JR.
Chairman

JAMES H. THOMPSON
Secretary

SUNDAY, MARCH 22 9:30 a.m.—Conference Room 1

Joint meeting with the California Thoracic Society, the California Chapter of American College of Chest Physicians and the California Society of Allergy

Moderator: Harney M. Cordua, Jr., M.D., San Diego

9:30—**Pathophysiology of Emphysema**—Joseph F. Tomashefski, M.D., Columbus, Ohio, by invitation.
Assistant Professor of Medicine and Physiology, Ohio State University College of Medicine, Chief of Research, Ohio Tuberculosis Hospital.

10:10—**The Immunology of Allergy**—Peter P. Barlow, M.D., Ann Arbor, Michigan, by invitation.
Former Assistant Professor of Internal Medicine and Postgraduate Medicine, University of Michigan School of Medicine.

10:50—**Subacute and Chronic Bronchitis** — Cutting B. Favour, M.D., Denver, Colorado, by invitation.
Chief, Department of Physiology, National Jewish Hospital.

11:30—**New Hope for the Patient with Pulmonary Emphysema**—Theodore H. Noehren, M.D., Buffalo, N.Y., by invitation.
Associate Professor of Internal Medicine, State University of New York at Buffalo School of Medicine.

TUESDAY, MARCH 24 2:00 p.m.—Conference Room 2

Program prepared in cooperation with the California Society of Internal Medicine

Moderator: Harney M. Cordua, Jr., M.D., San Diego

2:00—**Changing Clinical Concepts in Coccidioidomycosis**—David Salkin, M.D., Los Angeles.

2:20—**The Improving Prognosis of Systemic Lupus Erythematosis (SLE)—A Computer Analysis of 520 Cases**—Edmund L. Dubois, M.D., Los Angeles.

2:40—**The Changing Picture in Parasitology in California**—James H. Thompson, M.D., San Francisco.

3:00—**Hematologic Findings in Tuberculosis**—William P. Corr, Jr., M.D., Riverside.

3:20—**Coronary Cine Angiography — Clinical Studies** — Robert B. Kalmansohn, M.D., William N. Hanafee, M.D., Albert A. Kattus, Jr., M.D., and Richard W. Kalmansohn, M.D., Los Angeles.

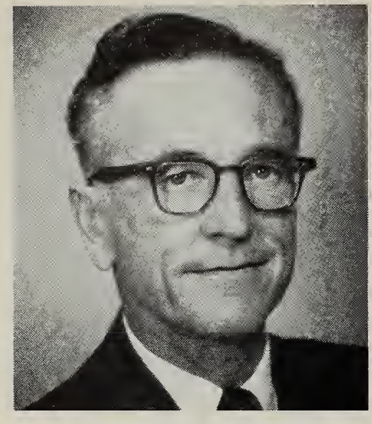
3:40—**Esophageal Stricture Following Short Term Intermittent Nasogastric Intubation** — John R. White, M.D., Torrance, by invitation; Walter P. Martin, M.D., Long Beach.

4:00—**Relationship of Adenomatous Polyps of the Colon to Cancer—A Reappraisal**—J. Edward Berk, M.D., Los Angeles, by invitation.

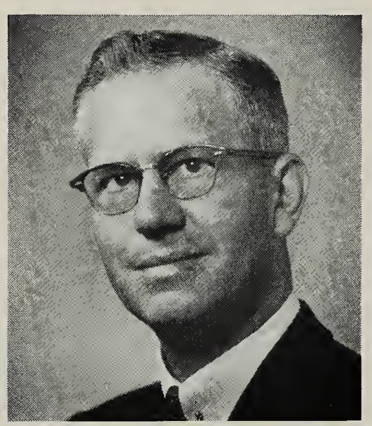
4:20—**Open Heart Surgery for Pure Mitral Stenosis**—Jerome H. Kay, M.D., Los Angeles.

4:40—**Disguised Thyroid Disorders**—Boris Catz, M.D., Los Angeles.

5:00—**Business Meeting**



FREDERIC P. SHIDLER
Chairman



HARRY E. PETERS, JR.
Secretary

GENERAL SURGERY

Chairman	Frederic P. Shidler, M.D., Menlo Park
Secretary	Harry E. Peters, Jr., M.D., Oakland
Assistant Secretary	David B. Sheldon, M.D., Los Angeles

SUNDAY, MARCH 22 9:30 a.m.—Ballroom Foyer

9:30—**Surgical Implications of Pancreatic Disease in Infancy and Childhood**—Robert H. Whittlesey, M.D., San Diego.

10:00—**The Wisdom of a Conservative Approach in the Management of Acute Hand Injury**—Robert A. Chase, M.D., Palo Alto, by invitation.

10:30—**Acute Colonic Hemorrhage**—W. Russell Smith, M.D., Los Angeles.

11:00—**The Surgical Significance of Peptic Esophagitis**—Carleton Mathewson, Jr., M.D., San Francisco.

11:30—**Business Meeting**

Three General Meetings

Theme: Immunology

1. BIOLOGICAL BASIS OF IMMUNOLOGY — Sunday Afternoon.
2. TISSUE TRANSPLANTATION — Monday Afternoon.
3. CLINICAL IMPLICATIONS OF IMMUNOLOGY AND AUTOIMMUNITY — Tuesday Afternoon.

For Complete Program, see Section on General Meetings

Medical Motion Pictures and Television

Motion Picture and Television Symposia have been planned with particular attention to members of the general surgical section. For schedule and program, see Sections on Medical Motion Pictures and Television.

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GENERAL PRACTICE

Chairman	Herbert A. Holden, M.D., San Leandro
Secretary	Merlin A. Hendrickson, M.D., Rialto
Assistant Secretary	Leland B. Blanchard, M.D., San Jose

HERBERT A. HOLDEN
Chairman

MERLIN A. HENDRICKSON
Secretary

SUNDAY, MARCH 22 9:30 a.m.—Ballroom

Joint Meeting with Sections on
Obstetrics and Gynecology, and Pediatrics

Symposium on Immunology

For Program, see Section on Obstetrics and Gynecology

MONDAY, MARCH 23 9:30 a.m.—Galeria Room

Joint Meeting with Sections on
Industrial Medicine and Surgery, and Physical Medicine

Symposium

Injuries of the Upper Extremity
as a Major Problem in Industry

Moderator: Herbert A. Holden, M.D., San Leandro

9:30—**The Role of the Reconstructive Surgeon**—Donald R. Pratt, M.D., San Francisco.

10:00—**Diagnosis and Treatment of Shoulder Injuries**—Robert Samilson, M.D., San Francisco.

10:30—**The Role of Physical Medicine**—Walter Treanor, M.D., San Francisco.

11:00—**The Problem from the Compensation Carriers Viewpoint—Trends Past, Present and Future**—John H. Leimbach, Jr., M.D., San Francisco.

11:30—**Questions from the floor.**

12:00—**Business Meeting.**

WEDNESDAY, MARCH 25 9:30 a.m.—Conference Room 1

Joint Meeting with Section on Psychiatry and Neurology

9:30—

Symposium

The Early Detection of Emotional Disorders
in General Medical Practice

Moderator: Alfred F. Kandlbinder, M.D., Monterey

1. **The Borderline Psychotic**—Robert F. Kimmich, M.D., San Francisco, by invitation.
2. **The Depressive or Suicidal Patient**—Steven D. Schwartz, M.D., Los Angeles.
3. **The Anxious Patient**—Werner Mendel, M.D., Los Angeles.

(continued on next page)

GENERAL PRACTICE (Cont.)

10:45— **Symposium**

The Treatment of Emotional Disorders in General Medical Practice

Moderator: Alfred F. Kandlbinder, M.D., Monterey

1. **Drugs and Neuroses**—Ronald R. Koegler, M.D., Los Angeles.
2. **Drugs and Psychoses**—Allen J. Enelow, M.D., Pacific Palisades.
3. **Psychiatric Management of the Medical Patient** — Douglas L. Forde, M.D., Pacific Palisades.

WEDNESDAY, MARCH 25 2:00 p.m.—Conference Room 1

Joint Meeting with Sections on
Pediatrics, and Preventive Medicine and Public Health

2:00—**Etiology and Family Spread of Various Acute Respiratory Illnesses in Hospitalized Children in Both High and Low Socio-Economic Groups**—Bernard Portnoy, M.D., Los Angeles, by invitation.

2:30—**Recent Developments in Prevention of Viral Infections**—Paul F. Wehrle, M.D., Los Angeles.

3:15—**Disturbances in Immune Globulin Metabolism in Man**—Robert A. Good, M.D., Minnesota, by invitation.

4:15—**Adjourn.**

VISIT SCIENTIFIC AND
TECHNICAL EXHIBITS

REGISTRATION

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ALLERGY

Chairman . . . . Walter R. MacLaren, M.D., Pasadena
Secretary . . . . Leo R. Melcher, M.D., Redwood City
Assistant Secretary . . . . . . John S. O'Toole, M.D., Riverside

WALTER R. MacLAREN
Chairman

SUNDAY, MARCH 22 9:30 a.m.—Conference Room 1

Joint Meeting with Section on Internal Medicine, California Thoracic Society, and California Chapter of the American College of Chest Physicians

For Program, see Section on Internal Medicine

LEO R. MELCHER
Secretary

MONDAY, MARCH 23 9:30 a.m.—Conference Room 4

9:30—**Food Allergy—Its Role in Emphysema and Chronic Bronchitis**—Albert H. Rowe, M.D., and Albert Rowe, Jr., M.D., Oakland.

9:55—**Discontinuity Gel Electrophoresis as a Method of Allergen Purification**—Arthur Lietze, Ph.D., Palo Alto, by invitation.

10:20—**Clinical Results When Using Smaller Volume Doses of Emulsified Antigen in Allergic Patients**—Saul D. Eger, M.D., Los Angeles.

10:45—**Clinical Results of Treatment with Alum Precipitated Pyridine Extracts**—Alvin D. Wert, M.D., Portland, Oregon, by invitation.

11:10—**Five-Year Follow-Up Study on Severe Hymenoptera Reactors**—John S. O'Toole, M.D., Riverside.

11:35—**Routine Studies with Paper Electrophoresis in Private Allergy Practice**—William G. Grundon, M.D., San Diego, by invitation; and Milton Millman, M.D., San Diego.

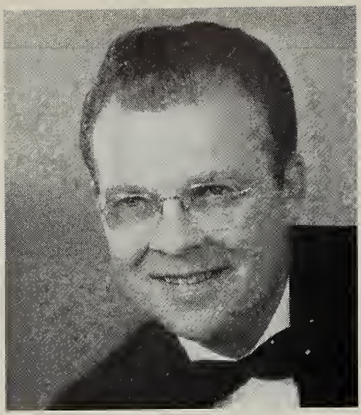
12:00—**Recess, adjourn to Conference Room 5.**

MONDAY, MARCH 23 12:15 p.m.—Conference Room 5

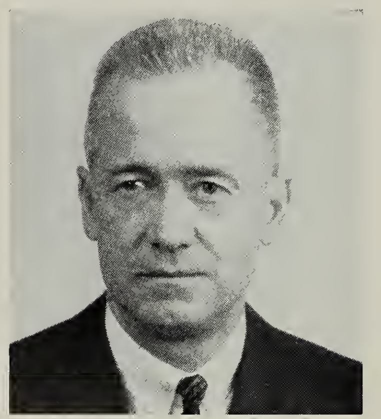
12:15—**Luncheon and Business Meeting**—Sponsored by Section on Allergy and the California Society of Allergy.

EMERGENCY CALLS AND MESSAGES

Convention Emergency Call Number: 624-7581—
8:30 a.m. to 5:00 p.m.
Saturday March 21 to Wednesday, March 25



JAMES S. WEST
Chairman



GORDON C. LANGSDORF
Secretary

ANESTHESIOLOGY

Chairman	James S. West, M.D., Los Angeles
Secretary	Gordon C. Langsdorf, M.D., La Jolla
Assistant Secretary	Bruce M. Anderson, M.D., Oakland

SUNDAY, MARCH 22 9:30 a.m.—Conference Room 8

9:30—**Steady State of Anesthesia**—Louis W. Lewis, M.D., Berkeley.

9:50—**A New Method of General Anesthesia in Bronchoscopy**—James T. Fluvog, M.D., Modesto.
Discussion by Gilbert E. Kinyon, M.D., San Diego.

10:20—**Organization of a Department of Inhalation Therapy**—Grant Fletcher, M.D., Palo Alto, by invitation.
Discussion by LeRoy Misuraca, M.D., Whittier.

11:00—**Electrocardiography for Anesthesiologists**—Travis Winsor, M.D., Los Angeles.

11:45—**Business Meeting.**

SUNDAY, MARCH 22 2:00 p.m.—Conference Room 8

2:00—**The Evaluation of Patients Prior to Heart Surgery**—David B. Carmichael, Jr., M.D., San Diego.

2:40—**The Physiological Status of the Perfusion Patient**—Ernest E. Pund, Jr., M.D., San Diego, by invitation.

3:20—**Pre- and Post-Operative Management of Patients for Extracorporeal Circulation**—Glen A. Gibbons, M.D., San Diego.

4:00—**Renal Physiology During Open Heart Surgery**—Douglas G. Davidson, M.D., San Diego.

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DERMATOLOGY AND SYPHILOLOGY

Chairman	Herbert L. Joseph, M.D., Vallejo
Secretary	Norman E. Levan, M.D., Los Angeles
Assistant Secretary	Robert G. Walton, M.D., Modesto

HERBERT L. JOSEPH
Chairman

NORMAN E. LEVAN
Secretary

MONDAY, MARCH 23 9:30 a.m.—Conference Room 1

Joint Meeting with Section on Eye

9:30—**Ocular Complications of Systemic Anti-Malarials**—John H. Allington, M.D., Oakland.

9:55—**Discussion** by Victor D. Newcomer, M.D., Los Angeles.

10:00—**Disturbances on Delayed Allergic Responses** — Robert A. Good, M.D., Minneapolis, Minnesota, by invitation.

American Legion Memorial Heart Research Professor of Pediatrics and Professor of Microbiology, University of Minnesota Medical School.

11:00— **Panel Discussion**

Problems Common to the Eye and Skin

Moderator: Manuel F. Allende, M.D., San Francisco

Members of the Panel: Jack Fields, M.D., North Hollywood, Warren A. Wilson, M.D., Los Angeles, Phillips Thygeson, M.D., San Francisco, Herman V. Allington, M.D., Oakland, and R. Gordon MacDonald, M.D., Riverside.

12:30—**Business Meeting.**

QUALIFICATIONS/REQUIREMENTS FOR REGISTRATION

(a) All M.D.'s with credentials showing that they hold valid license to practice medicine. (Membership card in C.M.A.; county medical society/association or A.M.A. membership card.)

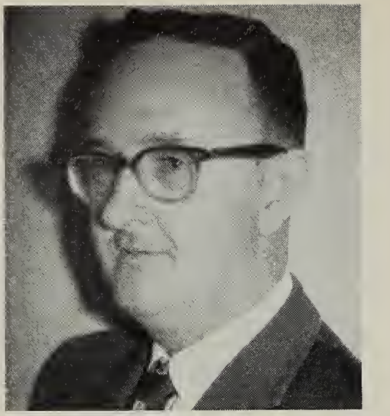
(b) Medical students will be admitted upon presentation of credentials from their medical schools identifying them as medical students. (A membership card of the Student American Medical Association or letter from their dean's office.)

(c) Medical secretaries will be admitted upon presentation of a letter from the physician employer.

(d) Pharmacist mates and other military personnel of a like grade will be admitted upon presentation of a letter requesting their admittance, written by their commanding officer.

(e) Dentists (D.D.S.), doctors of veterinary medicine (D.V.M.), registered nurses (R.N.), student nurses, x-ray technicians, laboratory technicians, allied public health personnel, and others will be admitted provided they have proper identification.

(f) All questions on admission will be passed upon by a member of the Committee on Registration who will be present at the desk.



WILLIAM F. BAXTER
Chairman

IRWIN HARRIS
Secretary

EAR, NOSE AND THROAT

Chairman . . . . William F. Baxter, M.D., Los Altos
Secretary . . . . Irwin Harris, M.D., Los Angeles
Assistant Secretary . . . . . Thomas L. Soss, M.D., San Mateo

SUNDAY, MARCH 22 9:30 a.m.—Conference Room 9

9:30—**The Value of Estrogens in the Control of Bleeding**—Alex Weisskopf, M.D., San Mateo.

Discussion

10:00—**Diagnostic Problems Following Trauma to the Nose**—John M. Wasserman, M.D., Redondo Beach.

Discussion

10:30—**Treatment of Recurrent Serous Otitis by Controlled Inflation**—G. Howard Gottschalk, M.D., Los Angeles.

Discussion

11:00—**The Injection Treatment of Dysphonia Due to Unilateral Recurrent Nerve Paralysis (Movie)**—Henry J. Rubin, M.D., Beverly Hills.

Discussion

11:30—**Acoustic Versus Visual Diagnosis in Laryngology**—Paul J. Moses, M.D., San Francisco.

Discussion

12:00—**Business Meeting.**

VISIT SCIENTIFIC AND
TECHNICAL EXHIBITS

REGISTRATION

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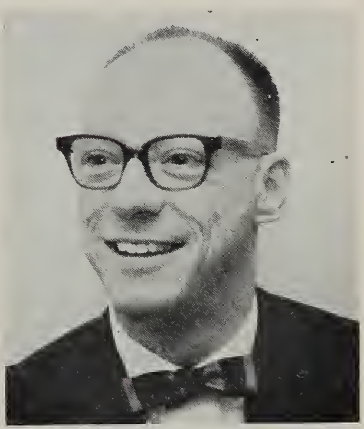
EYE

Chairman	James F. Kleckner, M.D., Los Angeles
Secretary	Byron H. Demorest, M.D., Sacramento
Assistant Secretary	Victor G. Fellows, Jr., M.D., San Francisco

JAMES F. KLECKNER
Chairman



BYRON H. DEMOREST
Secretary

MONDAY, MARCH 23 9:30 a.m.—Conference Room 1

Joint Meeting with Section on Dermatology

9:30—**Ocular Complications of Systemic Anti-Malarials**—John H. Allington, M.D., Oakland.

9:55—Discussion by Victor D. Newcomer, M.D., Los Angeles.

10:00—**Disturbances on Delayed Allergic Responses** — Robert A. Good, M.D., Minneapolis, Minnesota, by invitation.
American Legion Memorial Heart Research Professor of Pediatrics and Professor of Microbiology, University of Minnesota Medical School.

11:00—

Panel Discussion

Problems Common to the Eye and Skin

Moderator: Manuel F. Allende, M.D., San Francisco

Members of the Panel: Jack Fields, M.D., North Hollywood, Warren A. Wilson, M.D., Los Angeles, Phillips Thygeson, M.D., San Francisco, Herman V. Allington, M.D., Oakland, and R. Gordon MacDonald, M.D., Riverside.

12:30—**Business Meeting in Conference Room 10.**

MONDAY, MARCH 23 2:00 p.m.—Music Room

Motion Picture Symposium

The Motion Picture Symposium on **Ophthalmology** will be shown from 2:00 p.m. to 3:00 p.m. in the Music Room.

For Program, see Section on Motion Pictures

BRING PROPER IDENTIFICATION
FOR REGISTRATION

VISIT SCIENTIFIC AND
TECHNICAL EXHIBITS

CARL E. NEMETHI
Chairman

C. FREDERICK BURTON
Secretary

INDUSTRIAL MEDICINE AND SURGERY

Chairman	Carl E. Nemethi, M.D., Los Angeles
Secretary	C. Frederick Burton, M.D., Oakland
Assistant Secretary	Rufus J. Walker, M.D., Los Angeles

MONDAY, MARCH 23 9:30 a.m.—Galeria Room

Joint Meeting with Sections on
General Practice and Physical Medicine

Symposium

Injuries of the Upper Extremity
as a Major Problem in Industry

Moderator: Herbert A. Holden, M.D., San Leandro

9:30—**The Role of the Reconstructive Surgeon**—Donald R. Pratt, M.D., San Francisco.

10:00—**Diagnosis and Treatment of Shoulder Injuries**—Robert Samilson, M.D., San Francisco.

10:30—**The Role of Physical Medicine**—Walter Treanor, M.D., San Francisco.

11:00—**The Problem from the Compensation Carriers Viewpoint—Trends Past, Present and Future**—John H. Leimbach, Jr., M.D., San Francisco.

11:30—**Questions from the floor.**

12:00—**Business Meeting.**

BRING PROPER IDENTIFICATION
FOR REGISTRATION

MESSAGE CENTER

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OBSTETRICS AND GYNECOLOGY

Chairman . . . . Leon P. Fox, M.D., San Jose
Secretary . . . . Ralph L. Hoffman, M.D., San Diego
Assistant Secretary . . . Karl L. Schaupp, Jr., M.D., San Francisco

LEON P. FOX
Chairman

RALPH L. HOFFMAN
Secretary

SUNDAY, MARCH 22 9:30 a.m.—Ballroom

Joint Meeting with Sections on Pediatrics and General Practice

Immunology

9:30—**Progress Toward Chemical Suppression of Immune Reaction**—Robert A. Good, M.D., Minneapolis, by invitation.

10:00—**Immune Response of Rabbits and Men Following Orally Ingested Protein**—Richard S. Farr, M.D., La Jolla, by invitation.

10:30—**Intravascular Hemolysis and the Blood Clotting System**—Donald G. McKay, M.D., New York City, by invitation.

11:30—**Question and Answer Period.**

MONDAY, MARCH 23 12:00 Noon—Conference Room 2

Joint Luncheon Meeting with the California Division of the American College of Obstetrics and Gynecology

12:15—**The Clinical Significance of the Pathology of Toxemia of Pregnancy**—Donald G. McKay, M.D., New York City, by invitation.

MONDAY, MARCH 23 2:00 p.m.—Conference Room 2

2:00—**Business Meeting.**

2:20—**Induction of Ovulation with Clomiphene Citrate**—M. James Whitelaw, M.D., San Jose.

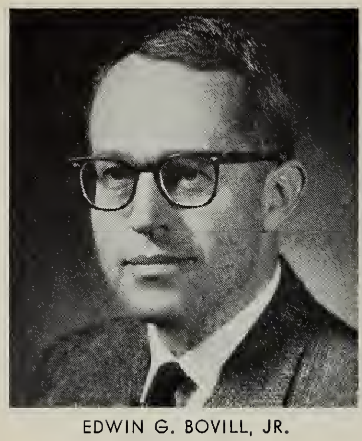
2:40—**Constriction Ring of the Lower Uterine Segment in Term Obstetrical Patients**—Wallace C. Marine, Jr., M.D., Los Angeles.

3:10—**Motivation in Screening for Cervical Cancer**—Purvis L. Martin, M.D., San Diego.

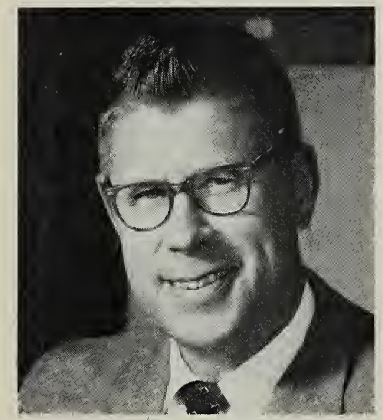
3:40—**Differential Diagnosis of Pelvic Pain**—Prentiss Willson, M.D., Santa Barbara.

4:00—**Chairman's Address: Abuse of Prenatal Care**—Leon P. Fox, M.D., San Jose.

VISIT SCIENTIFIC AND
TECHNICAL EXHIBITS



EDWIN G. BOVILL, JR.
Chairman



G. WILBUR WESTIN
Secretary

ORTHOPEDICS

Chairman	Edwin G. Bovill, Jr., M.D., San Francisco
Secretary	G. Wilbur Westin, M.D., Los Angeles
Assistant Secretary	John F. Cowan, M.D., San Francisco

SUNDAY, MARCH 22 9:30 a.m.—Galeria Room

9:30—**Management of Paralytic Dislocation of the Hip**—Earl Feiwell, M.D., Downey.

9:55—**Slipped Capital Femoral Epiphysis: An End Result Study**—Oliver Nichols, M.D., Los Angeles.

10:20—**Congenital Constricting Bands**—Dana Street, M.D., and Frank Cunningham, M.D., Torrance.

10:45—**A Technique for Salvage of Certain Complications Following Femoral Neck Fracture**—F. Richard Schneider, M.D., Daly City and Don King, M.D., San Francisco.

11:10—**Regional Resection Rather Than Amputation for Selected Primary Bone Tumors of the Extremities**—C. Howard Hatcher, M.D., Palo Alto.

11:35—**Chairman's Address: Osteotomy of the Cervical Spine for Ankylosing Spondylitis with Severe Deformity: A Case Report**—Edwin G. Bovill, Jr., M.D., San Francisco.

12:00—**Business Meeting.**

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PATHOLOGY AND BACTERIOLOGY

Chairman . . . . Richard O. Myers, M.D., Van Nuys
Secretary . . . . Melvin B. Black, M.D., San Francisco
Assistant Secretary . . . William C. Herrick, Sr., M.D., San Diego

SUNDAY, MARCH 22 9:30 a.m.—Conference Room 4

9:30—**A New Approach to the Chemotherapy of Malignant Melanomas** — Harry B. Demopoulos, M.D., Los Angeles, by invitation.
Discussion

9:55—**The Celite Clotting Time as a Screening Test for Hemophilioid and Thrombopathic States** — Jorge A. Franco, M.D., by invitation, and Leslie R. Grams, M.D., San Jose.
Discussion

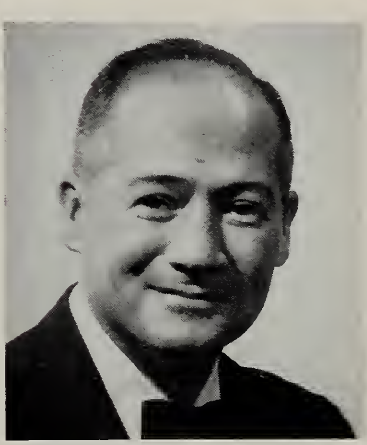
10:20—**The Blood Phenylalanine Levels of Newborn Infants — A Routine Screening Program for the Hospital Newborn Nursery**—H. R. Irwin, M.D., San Diego.
Discussion

10:45—**The Responsibility of the Pathologist in the Syndrome of the Battered Child** — Theodore J. Curphey, M.D., Harold Kade, M.D., and Thomas Noguchi, M.D., Los Angeles; and Serge M. Moore, M.D., Los Angeles, by invitation.
Discussion

11:10—**Unusual Reactive Processes of Lymph Nodes Simulating Malignant Lymphoma**—Robert J. Lukes, M.D., Los Angeles, by invitation.
Discussion

11:35—**Business Meeting.**

RICHARD O. MYERS
Chairman


MELVIN B. BLACK
Secretary

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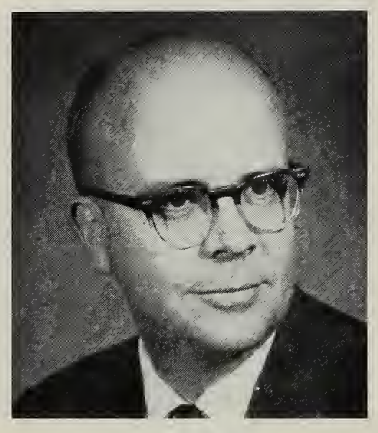
LAWRENCE E. RECK
Chairman



JACK W. BILLS
Secretary

PEDIATRICS

Chairman . . . . Lawrence E. Reck, M.D., San Diego
Secretary . . . . Jack W. Bills, M.D., Van Nuys
Assistant Secretary . . . . Leo S. Bell, M.D., San Mateo

SUNDAY, MARCH 22 9:30 a.m.—Ballroom

Joint Meeting with Sections on
Obstetrics and Gynecology and General Practice

Immunology

9:30—**Progress Toward Chemical Suppression of Immune Reaction**—Robert A. Good, M.D., Minneapolis, by invitation.

10:00—**Immune Response of Rabbits and Men Following Orally Ingested Protein**—Richard S. Farr, M.D., La Jolla, by invitation.

10:30—**Intravascular Hemolysis and the Blood Clotting System**—Donald G. McKay, M.D., New York City, by invitation.

11:30—**Question and Answer Period.**

SUNDAY, MARCH 22 12:30 p.m.—Conference Room 10

12:30—**Pediatricians' Luncheon and Panel Discussion.** Advance Reservations are necessary and may be made with Leo Bell, M.D., 36 North San Mateo Drive, San Mateo. (Please send check with reservation for $6.00)

**Various Phases of the Relative Value Study
As It Pertains to Pediatrics**

Moderator: Lawrence E. Reck, M.D., San Diego

Panel Members: James C. MacLaggan, M.D., San Diego, Robert B. Olney, M.D., Los Angeles, Robert D. Burnett, M.D., Sunnyvale, William H. Thompson, M.D., San Mateo.

WEDNESDAY, MARCH 25 2:00 p.m.—Conference Room 1

Joint Meeting with Sections on
General Practice, and Preventive Medicine and Public Health

2:00—**Etiology and Family Spread of Various Acute Respiratory Illnesses in Hospitalized Children in Both High and Low Socio-Economic Groups**—Bernard Portnoy, M.D., Los Angeles, by invitation.

2:30—**Recent Developments in Prevention of Viral Infections**—Paul F. Wehrle, M.D., Los Angeles.

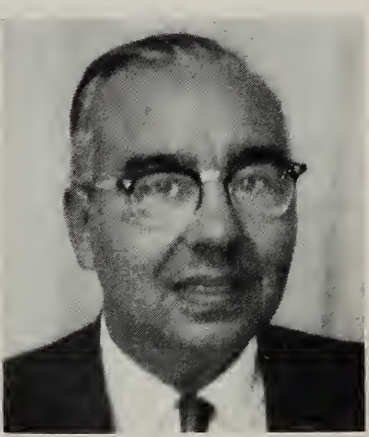
3:15—**Disturbances in Immune Globulin Metabolism in Man**—Robert A. Good, M.D., Minneapolis, by invitation.

4:15—**Business Meeting.**

PHYSICAL MEDICINE

Chairman . . . . Frances Baker, M.D., San Mateo
Secretary . . . . O. Leonard Huddleston, M.D., Santa Monica
Assistant Secretary . . . . . Gregory Bard, M.D., San Francisco

FRANCES BAKER
Chairman



O. LEONARD HUDDLESTON
Secretary

MONDAY, MARCH 23 9:30 a.m.—Galeria Room

Joint Meeting with Sections on
Industrial Medicine and Surgery and General Practice

Symposium

Injuries of the Upper Extremity as a
Major Problem in Industry

**For Program, see Section on
Industrial Medicine and Surgery**

MONDAY, MARCH 23 2:00 p.m.—Conference Room 1

2:00—**Introduction**—Frances Baker, M.D., San Mateo.

2:05—**Clinical Applications of Electromyography**—Karl E. Haase, M.D., Los Angeles.

2:35—**Evaluation and Treatment of Movement Disorders**—Joseph Witt, M.D., and Gregory Bard, M.D., San Francisco.

3:35—**Recess.**

3:40—**Mobilization Therapy for Neuromuscular Abnormalities** — O. Leonard Huddleston, M.D., Santa Monica.

4:10—**Preliminary Report of Aphasia Testing as a Method for Evaluation and Training in Communication Skills** — Elizabeth Austin, M.D., and Howard S. Barrows, M.D., Los Angeles; and by invitation, Robert M. Tager, A.B., and Helen M. Mirich, B.S., O.T.R., Los Angeles.

4:40—**Business Meeting.**

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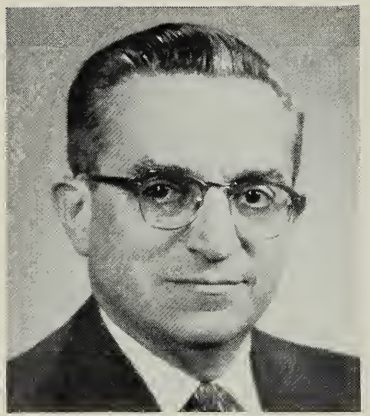
HERBERT BAUER
Chairman



MORRIS L. GROVER
Secretary

PREVENTIVE MEDICINE AND PUBLIC HEALTH

Chairman	Herbert Bauer, M.D., Woodland
Secretary	Morris L. Grover, M.D., Pasadena
Assistant Secretary	Anita E. Faverman, M.D., Oakland

WEDNESDAY, MARCH 25 9:30 a.m.—Conference Room 9

9:30—**Early Cancer Detection of the Cervix During Pregnancy**—Edward G. Jones, M.D., Los Angeles.

10:15—**Comparison of the Treponema Pallidum Immobilization (TPI) Test and the Fluorescent Treponemal Antibody (FTA) Test in the Serologic Diagnosis of Syphilis**—Charles M. Carpenter, M.D., Los Angeles; and by invitation Ruth A. Boak, M.D., and James N. Miller, Ph.D., Los Angeles.

11:00—**Recess and Business Meeting.**

11:15—**Specific and Non-Specific Resistant Mechanisms in Communicable Diseases**—Lauri Thrupp, M.D., Los Angeles, by invitation.

11:45—**Chairman's Address: A Three-Year Demonstration Study in Public Health Social Work in Yolo County**—Herbert Bauer, M.D., Woodland.

WEDNESDAY, MARCH 25 2:00 p.m.—Conference Room 1

Joint Meeting with Sections on General Practice and Pediatrics

2:00—**Etiology and Family Spread of Various Acute Respiratory Illnesses in Hospitalized Children in Both High and Low Socio-Economic Groups**—Bernard Portnoy, M.D., Los Angeles, by invitation.

2:30—**Recent Developments in Prevention of Viral Infections**—Paul F. Wehrle, M.D., Los Angeles.

3:15—**Disturbances in Immune Globulin Metabolism in Man**—Robert A. Good, M.D., Minneapolis, by invitation.

4:15—**Adjourn.**

EMERGENCY CALLS AND MESSAGES

Convention Emergency Call Number: 624-7581—
8:30 a.m. to 5:00 p.m.
Saturday March 21 to Wednesday, March 25

PSYCHIATRY AND NEUROLOGY

Chairman . . . . Henry S. Colony, M.D., Oakland
Secretary . . . . . . Allen J. Enelow, M.D., Pacific Palisades
Assistant Secretary . . . . . . George Y. Abe, M.D., Norwalk

HENRY S. COLONY
Chairman

ALLEN J. ENELOW
Secretary

WEDNESDAY, MARCH 25 9:30 a.m.—Conference Room 1

Joint Meeting with Section on General Practice

9:30 Symposium

The Early Detection of Emotional Disorders in General Medical Practice

Moderator: Alfred F. Kandlbinder, M.D., Monterey

1. **The Borderline Psychotic**—Robert F. Kimmich, M.D., San Francisco, by invitation.
2. **The Depressive or Suicidal Patient** — Steven D. Schwartz, M.D., Los Angeles.
3. **The Anxious Patient**—Werner Mendel, M.D., Los Angeles.

10:45 Symposium

The Treatment of Emotional Disorders in General Medical Practice

Moderator: Alfred F. Kandlbinder, M.D., Monterey

1. **Drugs and Neuroses**—Ronald R. Koegler, M.D., Los Angeles.
2. **Drugs and Psychoses**—Allen J. Enelow, M.D., Pacific Palisades.
3. **Psychiatric Management of the Medical Patient**—Douglas L. Forde, M.D., Pacific Palisades.

12:00—**Business Meeting.**

WEDNESDAY, MARCH 25 2:00 p.m.—Conference Room 2

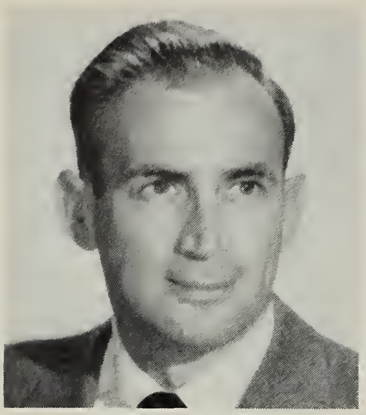
2:00—**Immunochemical Approach to Demyelinating Diseases**—Elizabeth Roboz Einstein, Ph.D., San Francisco, by invitation.
Discussion

2:30—**Chairman's Address**—Henry S. Colony, M.D., Oakland.

3:00—**Benign Cranial Nerve Dysfunction**—Theodore L. Munsat, M.D. and James Barnes, M.D., Los Angeles, both by invitation.
Discussion

3:30—**The Paradoxes of Takayasu's Disease**—Jean-Louis Riehl, M.D., Los Angeles, by invitation.
Discussion

4:00—**Motion Picture: Use of Telemetered Brain Waves in a Study of Triple Personality**—A. J. Gianascol, M.D., San Francisco.
Discussion



WALTER GAINES
Chairman

JOHN L. GWINN
Secretary

RADIOLOGY

Chairman	Walter Gaines, M.D., San Mateo
Secretary	John L. Gwinn, M.D., Los Angeles
Assistant Secretary	John C. Bennett, M.D., San Francisco

SUNDAY, MARCH 22 9:30 a.m.—Conference Room 2

9:30—**Differential Diagnosis of Filling Defects of the First Portion of the Duodenum**—John H. Woodruff, M.D., and by invitation R. C. Jamison, M.D., Torrance.

9:50—**Legg-Perthes and Familial Epiphyseal Dysplasia**—Bertram R. Girdany, M.D., Pittsburgh, Pennsylvania, and Steven E. Ross, M.D., San Francisco, both by invitation.

10:10—**Megavolt Diagnosis**—Gerald M. McDonnel, M.D., Los Angeles.

10:30—**Recess.**

10:40—**Pantopaque Studies of Cerebellar Pontine Tumors**—Robert L. Scanlan, M.D., Los Angeles.

11:00—**Soft Tissues of the Pelvis**— Charles D. Noonan, M.D., San Francisco.

11:20—**Recent Cinefluorographic Advances in Nasopharyngeal Radiography**—R. F. Sloan, B.A., by invitation; Stanley Brummett, M.D., and Joseph L. Westover, M.D.; Robert M. Ricketts, D.D.S., by invitation; and Franklin L. Ashley, M.D., Los Angeles.

11:50—**Polyethylene Catheter vs. Needle Technique in Transtracheal Bronchography**—James T. Fluvog, M.D., Modesto.

12:10—**Business Meeting.**

SUNDAY, MARCH 22 2:00 p.m.—Conference Room 2

2:00—**Hodgkin's Disease in Bone: Prognostic Significance**—Jerome Stuhlbarg, M.D., and Frank W. Ellis, both by invitation, and Bernard H. Feder, M.D., Long Beach.

2:20—**Supervoltage Radiation Therapy of Ovarian Carcinoma** — Gerald E. Hanks, M.D., and Robert H. Sagerman, M.D., both by invitation, and Malcolm A. Bagshaw, M.D., Palo Alto.

2:40—**That "Mad, Mad, Mad, Mad Thyroid"**—Warren J. Zager, M.D., Los Angeles.

3:00—**Recess**—Annual Meeting of the California Radiological Society.

BRING PROPER IDENTIFICATION
FOR REGISTRATION

UROLOGY

Chairman	Henry Bodner, M.D., Van Nuys
Secretary	Michael J. Feeney, M.D., San Diego
Assistant Secretary	Carl E. Burkland, M.D., Sacramento

TUESDAY, MARCH 24 9:00 a.m.—Music Room

Television Program

Renal Homotransplantation

Moderator: Joseph E. Murray, M.D., Boston, by invitation.
Surgeons: Willard Goodwin, M.D.,
and Joseph Kaufman, M.D., Los Angeles

The complete Color Television Program giving descriptions and listings of moderators, surgeons and panels will be available at the Registration Desk at the time of the meeting. The program will be televised from the U.C.L.A. Medical Center with Moderator and Discussants present in the Music Room, Biltmore Hotel.

TUESDAY, MARCH 24 2:00 p.m.—Conference Room 4

Panel Discussion

The Urologist in the Diagnosis and Management of Nephritis

Moderator: Louis Lombardo, M.D., Los Angeles

Members of the Panel: Morton H. Maxwell, M.D., Telfer B. Reynolds, M.D., and Joseph J. Kaufman, M.D., Los Angeles.

3:00—**Renal Heterotransplantation** — David E. Randel, M.D., by invitation, and Willard E. Goodwin, M.D., Los Angeles.
Discussion

3:15—**Clinical Decision for Nephrectomy in Renoprival Hypertension**—William S. Breall, M.D., Morton J. Thoshinsky, M.D. and Alex L. Finkle, M.D., San Francisco.
Discussion

3:30—**Bilateral Wilms' Tumors**—Colonel Kryder E. Van Buskirk, (M.C.) U.S.A. and Captain Dean T. Schamber, (M.C.) U.S.A., San Francisco, both by invitation.
Discussion

3:45—**Abdominal Electromyography During Micturition**—Ernest Bors, M.D. and K. A. Blinn, M.D., Long Beach, both by invitation.
Discussion

4:00—**Business Meeting.**

4:05—**Chronic Prostatitis—A Clinical Evaluation**—Roger W. Barnes, M.D., R. Theodore Bergman, M.D. and Henry L. Hadley, M.D., Los Angeles.
Discussion

4:25—**The Adjuvant Use of 5-FU and Irradiation in the Surgical Treatment of Cancer of the Bladder** — Joseph J. Kaufman, M.D., Frederick Burt, M.D. and Edward Langdon, M.D., Los Angeles.
Discussion

4:40—**Clinical Experiences with Ileal Conduits**—William Hohn, M.D., by invitation; and Michael J. Feeney, M.D., San Diego.
Discussion

HENRY BODNER
Chairman

MICHAEL J. FEENEY
Secretary

COLOR TELEVISION PROGRAM

Music Room ★ Biltmore Hotel

MONDAY THROUGH WEDNESDAY
mornings
MARCH 23 THROUGH 25, 1964

PLANNING COMMITTEE
Donald G. Mulder, M.D., Chairman
Howard S. Barrows, M.D.
Donald W. Petit, M.D. William G. Slate, M.D.

Closed Circuit Television programs will be offered Monday, Tuesday and Wednesday mornings in the Music Room, Biltmore Hotel. Each program will have a Moderator and Panel of Discussants present at the Biltmore Hotel with operative procedures and patients interviews or demonstrations televised from UCLA Medical Center. Following is a list of the programs. The complete Color Television Program giving descriptions and listings of moderators, surgeons and panels will be available at the Registration Desk at the time of the meeting.

MONDAY, MARCH 23 9:00 a.m. to 10:30 a.m.
Moderator: Justin J. Stein, M.D., Los Angeles
Examination and Diagnosis of Lesions of the Breast

10:30 a.m. to 12:00 noon
Moderator: Daniel G. Morton, M.D., Los Angeles
Management of Common Gynecological Problems

TUESDAY, MARCH 24 9:00 a.m. to 12:00 noon
Moderator: Joseph E. Murray, M.D., Boston, by invitation
Surgeons: Willard Goodwin, M.D., and
Joseph Kaufman, M.D., Los Angeles
Renal Homotransplantation

WEDNESDAY, MARCH 25 9:00 a.m. to 10:30 a.m.
Moderator: Charles O. Bechtol, M.D., Los Angeles
Prosthetics Rehabilitation in the Amputee

10:30 a.m. to 12:00 noon
Moderator: Murray G. Smyth, Jr., M.D., Philadelphia, by invitation
Ultrasonic Diagnosis: Its Uses and Limitations

MOTION PICTURE PROGRAM

Music Room ★ Biltmore Hotel

SUNDAY THROUGH WEDNESDAY
afternoons
MARCH 22 THROUGH 25, 1964

PLANNING COMMITTEE
John E. Connolly, M.D., Chairman
John M. Erskine, M.D.
Richard E. Gardner, M.D.
Frank W. Spicer, M.D.

Six film symposia will be presented, each utilizing about two-thirds of the time for projection of films, and one-third for discussions, questions and answers.

Be sure to read the SPECIAL MOTION PICTURE PROGRAM distributed at the time of registration with complete listing of films, descriptions, moderators, discussants and time schedules.

SUNDAY, MARCH 22 2:00 p.m. to 5:00 p.m.
SURGERY
Moderator: John E. Connolly, M.D., Palo Alto
Injuries of Face and Hands (Primary Reconstruction)
Thyroidectomy: A Half Century of Experience
Cine Survey of Stomach and Duodenum
Thrombectomy for Iliofemoral Venous Thrombosis

MONDAY, MARCH 23 2:00 p.m. to 3:00 p.m.
OPHTHALMOLOGY
Moderator: Frank C. Winter, M.D., San Francisco
Cataract with Glaucoma
Transplantation of the Parotid Duct in Total Xerophthalmia

3:00 p.m. to 5:20 p.m.
MEDICINE
Moderator: Joseph Stokes, M.D., San Diego, by invitation
Early Detection and Management of Ulcerative Colitis
Tetanus and Its Prevention
Current Concepts of Bronchial Asthma and Its Management

TUESDAY, MARCH 24 2:00 p.m. to 4:00 p.m.
MEDICINE
Moderator: Telfer Reynolds, M.D., Los Angeles
Innovations in Transfusion Therapy
Stroke—Early Restorative Measures in Your Hospital
Clinical Entities: Pheochromocytoma and Aldosteronism

4:00 p.m. to 5:00 p.m.
UROLOGY
Moderator: Milo Ellik, M.D., Long Beach
The Ureteric Advancement Operation
Transvesico-Capsular Prostatectomy

WEDNESDAY, MARCH 25 2:00 p.m. to 4:00 p.m.
GENERAL AND PSYCHIATRY
Moderator: William Bloomer, M.D., Torrance
Cardiac Resuscitation
The Disordered Mind: A Pathological Anxiety

WOMAN'S AUXILIARY

THIRTY-FOURTH ANNUAL CONVENTION

MARCH 22 TO 25, 1964

***Headquarters:* Biltmore Hotel, Los Angeles**

Convention Chairman: MRS. RUSSELL V. FISHER
Convention Co-Chairman: MRS. PAUL L. SAFFO

REGISTRATION—*North Galeria*

Sunday, March 22—9:00 a.m. to 5:00 p.m.
Monday, March 23—8:00 a.m. to 5:00 p.m.
Tuesday, March 24—8:00 a.m. to noon

SATURDAY, MARCH 21

7:30 p.m.—Report to the C.M.A. House of Delegates by Mrs. Homer R. Wolfsen, Auxiliary President, Biltmore Hotel. Doctors' wives are invited to attend. (Auxiliary members will not register for this meeting. Woman's Auxiliary Registration will start Sunday morning.)

SUNDAY, MARCH 22

9:00 a.m.—Executive Committee Breakfast Meeting, President's Suite.

2:30 p.m.—Pre-Convention Board Meeting, Conference Room #5

MONDAY, MARCH 23

8:30 a.m.—Opening Session of House of Delegates, Biltmore Bowl

11:30 a.m.—"Pronto" Luncheon, Biltmore Grill

1:15 p.m.—Afternoon Session of House of Delegates, Biltmore Bowl

TUESDAY, MARCH 24

8:30 a.m.—Final Session of House of Delegates, Biltmore Bowl

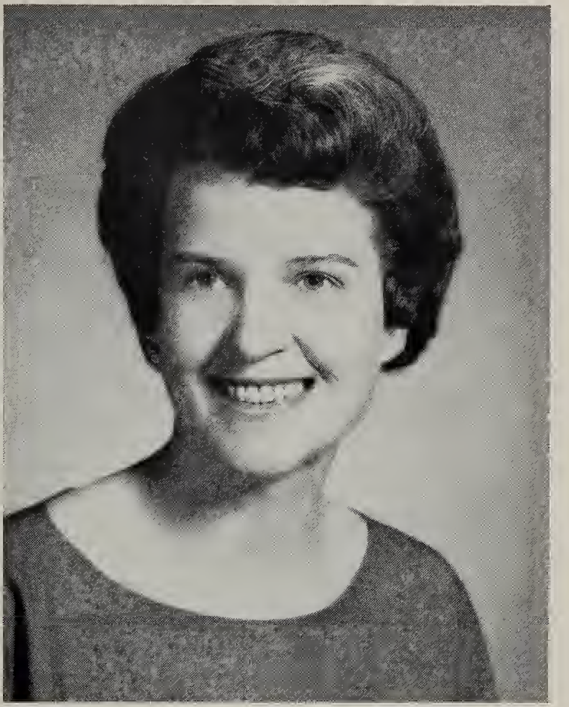
12:45 p.m.—Presidents' Luncheon honoring Mrs. Homer R. Wolfsen and Mrs. Lyle F. Murphy, President-Elect; State Past Presidents; and C.M.A. Advisory Board and their wives. Renaissance Room.

WEDNESDAY, MARCH 25

8:00 a.m.—Post-Convention Board Meeting, Mrs. Lyle F. Murphy presiding, Galeria Room.

9:30 a.m.—Orientation Meeting for: 1964-65 State Board Members, District Councilors and County Presidents. Incoming County Board Members are also welcome. Mrs. Lyle F. Murphy presiding, Galeria Room.

HOSPITALITY CENTER—*North Galeria near Art Gallery*



MRS. HOMER R. WOLFSEN, President

MRS. LYLE F. MURPHY, President-Elect

Technical Exhibits

Technical exhibits will be housed in the Hotel Biltmore's Rex Room, located directly below the Biltmore Bowl and reached by escalator. Here the many exhibitors will present their products and services for members of the Association.

All exhibits and all products exhibited have been screened by a committee as a means of eliminating those which do not meet high standards. The exhibitors agree to this procedure and agree that by this means each will be in good company.

Here in one area will be found the latest developments in drugs, equipment and services to aid the physician in his professional activities. All physicians are urged to visit the exhibits; meetings have been planned to allow ample time for this important activity. Your visit will not only help bring your own knowledge up to date; it will demonstrate to our exhibitors, who contribute so much to the success of the meeting, that we recognize and appreciate their fine cooperation.

Exhibits will open from 9 a.m. to 5 p.m. each day, with an early closing on Wednesday.

ABBOTT LABORATORIES Booth 52
North Chicago, Illinois

Abbott Laboratories invites you to visit our exhibit. Our representatives will be happy to answer any questions you may have concerning our leading products and new developments.

AIR-SHIELDS, INC. Booth 98
Hatboro, Pennsylvania

Air-Shields, Inc. will be exhibiting the Isolette® Infant Incubator, the Ambu® Rescue Breathing Equipment, and other specialized medical/hospital equipment of particular interest to members of the Association.

ALTA-DENA DAIRY Booth 106
City of Industry

Samples served—literature—laboratory records, and representatives to assist.

Certified Raw Milk: *Tested daily* in Los Angeles County Medical Association Milk Commission Laboratory for over 56 years. Better-tasting, guaranteed safe, clean, disease free, free of spray and antibiotic residues.

Kefir: Cultured milk—excellent medical reports on cases involving antibiotics and/or diarrhea. Contains whole milk seeded with viable Lactobacillus Acidophilus, L. Bulgarcus and L. Caucasicus.

Royal Yogurt: Try the new taste-exciting companion product to Kefir. Contains viable bacteria that help in digestive processes and protect intestine.

Natural Cheddar Cheese: A better-tasting, higher-protein cheddar cheese, made with clean-tested grade A milk.

AMES COMPANY, INC. Booth 57
Elkhart, Indiana

Hema-Combistix will be shown and demonstrated at the Ames booth.

Hema-Combistix is a new four-way, colorimetric, dip-and-read test for occult blood, protein, glucose, and pH in urine. Results for all four factors can be read within one minute. The Ames representatives will also be demonstrating several other simplified and standardized diagnostic tests.

AQUA-LAXER CORPORATION Booth 96
Seattle, Washington

Aqua-Laxer Hydromassage Unit (Portable). Component parts are as follows: A blower unit, rubber bath mat, and tubing.

ARMOUR PHARMACEUTICAL COMPANY Booth 9
Chicago, Illinois

ARNAR-STONE LABORATORIES, INC. Booth 103
Mt. Prospect, Illinois

Americaine topical anesthesia—the original 20 per cent dissolved benzocaine—in ointment and aerosol forms. New—up-side down, right-side up aerosol for ease in self-application. Quinette—stop vaginitis fast— 12 night treatment. Tetrasule timesules—increases coronary blood flow in angina pectoris—three dosage forms in smooth-acting timed-release capsules.

AUDIO-DIGEST FOUNDATION Booth 60
(Pacific Medical Equipment Co.; Authorized
Sales Outlet for Audio-Digest)
North Hollywood

Audio-Digest Foundation (a non-profit subsidiary of the California Medical Association) gives the busy physician a time-saving tour through the best of some 600 current medical journals, plus the highlights of scores of national meetings. Time-proven, but still unique—these medical tape-recorded services are now offered in seven series—General Practice, Surgery, Internal Medicine, Obstetrics and Gynecology, Anesthesiology and Ophthalmology.

Digest subscribers listen in their car, home or office. Carefully selected tape equipment for playing the Digests is offered at the meeting by Pacific Medical Equipment Co.

AYERST LABORATORIES Booth 76
New York, New York

Once again, Ayerst welcomes all physicians attending the California Medical Association Annual Meeting and invites you to stop at Booth No. 76 where our professional representatives will be on hand to discuss with you pharmaceutical specialties of our manufacture.

BARNES-HIND LABORATORIES Booth 20
Sunnyvale

Barnes-Hind Laboratories will exhibit their complete line of Heb-Cort Creams and Lotions, Brand of Hydrocortisone Creams and Lotions, and Tranquinal (Acetylcarbromal 0.13 gm, Bromisovalum 0.25 gm, Scopolamine Hydrobromide 0.10 mg) the ideal daytime sedative. Complete information and product literature may be obtained at Booth No. 20.

DON BAXTER, INC. Booth 10
Glendale

The finest Parenteral System medical engineering provides—"Safety Through Simplicity."

BERKELEY MEDICAL INSTRUMENTS Booth 31
Berkeley

Hemoglobin concentration, total serum Cholesterol, and true Glucose now can be accurately determined rapidly in the doctor's office or in the laboratory. This new compact electronic instrument, using simplified procedures and microtechniques, improves accuracy and cuts operator's time. Solid state construction and advanced component features assure reliable, consistent performance.

THE BORDEN COMPANY—Pharmaceutical Division Booth 78
New York, New York

Borden's dermatologicals, unique amino acid therapy (reported to stimulate the growth of epithelial tissue) in water washable antiseptic creams. Methakote, Methatar, Methaphor, Methaseptic, Infant formulas, Bremil and Mull-Soy. New data on milk allergy concerning the use of Mull-Soy.

BRISTOL LABORATORIES Booth 16
Syracuse, New York

A new contribution to antibiotic medicine to be released in 1964.

BROILITIZER SALES Booth 97
Los Angeles

We will exhibit for the first time the new Model 5 Broilitizer. The Broilitizer's underfired radiant 2300° F heat penetrates the meat, melts down the saturated fats and separates them from the meat. The juicy lean meat is left for your good health, plus a bonus of wonderful fireside flavor; the fat is cooked "out" instead of "in" as it is in overfired broilers or fryers. Advanced engineering has joined with modern medical science in this major contribution for a longer, more healthful life for you. The Broilitizer's marvel of scientific development, its cleanliness of operation, indoors or out, coupled with a low purchase price, make it a must for anyone concerned with his health and well being.

BURROUGHS WELLCOME & CO. (U.S.A.) INC. Booth 24
Tuckahoe, New York

Please visit us for information on our products and the newest developments from the extensive research facilities of Burroughs Wellcome & Co. Of particular interest at this meeting are Neosporin and Cortisporin Creams for topical bacterial infections, Mantadil Cream for relief of itching, Actifed for respiratory congestion, and Cardilate for angina.

BURTON, PARSONS & COMPANY, INC. Booth 63
Washington, D.C.

You are cordially invited to visit the Burton, Parsons & Company exhibit, where our representative will be showing Konsyl, L. A. Formula, neutraCarb and EKG Sol. Konsyl and L. A. Formula are the original refined psyllium bulk laxatives. neutraCarb, the antacid with Vitamin C, is available in five delightful flavors, cherry, lemon, lime, peppermint and raspberry. EKG Sol, is the new and modern electrode cream for electrocardiography and electro-encephalography.

CANRIGHT CORPORATION Booth 27
Glendale

CASS & JOHANSING Booth 3
Los Angeles

Representatives will be present to discuss approved County Medical Association Insurance Programs—Professional Liability, Group Disability, Non-Cancellable Disability, Life and Accidental Death and Dismemberment.

In addition, assistance in complete insurance programming will be available.

CIBA PHARMACEUTICAL COMPANY Booth 12
Summit, New Jersey

Esidrix-K (hydrochlorothiazide and potassium chloride Ciba). This exhibit will enable the Ciba representative to discuss the importance of potassium in normal physiology, the clinical symptoms of potassium depletion, especially resulting from the administration of a diuretic, and a way to obviate this problem effectively and conveniently with Esidrix-K.

THE COCA-COLA COMPANY Booth 80
Atlanta, Georgia

Ice-cold Coca-Cola served through the courtesy and cooperation of the Coca-Cola Bottling Company of Los Angeles, and The Coca-Cola Company.

STUART F. COOPER CO. Booth 32
Los Angeles

Stuart F. Cooper Co. (printers, lithographers, and steel-die engravers) will show a complete line of physician's forms, including engraved stationery, physical and medical history forms, official medical authorization forms, and insurance and consent forms.

CORECO RESEARCH CORPORATION Booth 107
New York, New York

The Coret Camera embodies the principle of electronic flash and constant automatic control of such factors as distance, aperture, field and exposure. Now, for the first time, Coreco offers a completely automatic professional clinical camera purposely designed to achieve the ultimate in surface, intra-oral and intra-tubular photography. Because of the simplicity of operation, even an inexperienced doctor or nurse can achieve consistently perfect color transparencies.

CUTTER LABORATORIES Booth 5
Berkeley

Cutter Laboratories will feature Blood Fractions, Pharmaceuticals and Biologicals.

DOME CHEMICALS INC. Booth 41

New York, New York

DOME CHEMICALS INCORPORATED, world leader in dermatologicals, will feature dermatological specialties that are of general interest to the members of the California Medical Association. Topical steroid products such as CORT-DOME, NEO-CORT-DOME, NEO-DOMEFORM-HC, etc., will be featured.

Our representatives will be available to discuss with you several products recently released from research laboratories of DOME.

DOWALCO, INC. Booth 33

Los Angeles

THE DOYLE PHARMACEUTICAL COMPANY Booth 28

A Division of The Dietene Company
Minneapolis, Minnesota

Have you tasted MERITENE? MERITENE is the good-tasting *Protein*-vitamin-mineral food supplement prescribed to provide concentrated nutrition for patients with poor appetite or tolerance for ordinary food. Visit our booth and let us serve you a cool, refreshing MERITENE Nourishment.

While there, review also our DIETENE REDUCING PLAN, provides optimum nutrition and maximum satiety without the use of drugs.

MERITENE and DIETENE are advertised only to the Medical Profession.

EATON LABORATORIES Booth 4

Norwich, New York

Since 1939, EATON LABORATORIES has pioneered in the development of the nitrofurans, many of which have been available, as legend drugs, to the profession. Basic and clinical research is continuing on these, as well as other classes of compounds.

In addition, EATON LABORATORIES offers a variety of research and educational services for all phases of medicine. Our Medical Service Representatives at the Eaton Booth welcome the opportunity to furnish you with complete information covering these services to you and the nitrofurans.

EISELE & COMPANY Booth 65

Nashville, Tennessee

EISELE & COMPANY will exhibit their regular line of hypodermic syringes, both the regular and inter-changeable types, hypodermic needles, clinical thermometers, elastic bandages, specialty glassware, and other related items.

ELECTRODYNE COMPANY, INC. Booth 100

Norwood, Massachusetts

ELECTRODYNE, original developers of the Cardiac Pacemaker and External Defibrillator will exhibit a complete line of Cardiac Monitoring and resuscitation instruments.

Featured is the C-100 Cardiac Control Console which is a combination of the PMS-5 Pacemaker-Monitor-Alarm-5 Cardioscope and the DS-95 DC Defibrillator for Internal and External use with built-in synchronizer.

Together these two instruments form a compact, integrated system providing manually or automatically initiated pacemaking, visual and audible cardiac monitoring and external or internal DC defibrillation with a choice of manual or synchronized placement of countershock.

ENCYCLOPAEDIA BRITANNICA Booth 61

Chicago, Illinois

ENCYCLOPAEDIA BRITANNICA welcomes delegates to the 1964 Annual Session of the California Medical Association and invites them to examine the great new edition of Britannica.

Official delegates may now purchase this magnificent set at an exhibit offer only available at our convention exhibits. Visit Britannica's Booth No. 61 for free descriptive literature.

CHARLES O. FINLEY & CO., INC. Booth 15

Los Angeles

FULLER PHARMACEUTICAL COMPANY Booth 75

Minneapolis, Minnesota

GEIGY PHARMACEUTICALS Booth 51

Ardsley, New York

GEIGY PHARMACEUTICALS cordially invites Members and Guests of the Association to visit its exhibit. The exhibit features important new therapeutic developments in the management of cardiovascular disease as well as current concepts in the control of inflammation; hypertension and edema; depression; obesity, and other disorders, which may be discussed with representatives in attendance.

GERBER PRODUCTS COMPANY Booth 48

Fremont, Michigan

GERBER Flash Processed MODILAC . . . A complete formula for infants of all age groups. Gently processed to better conserve nutritional values, it has true milk color and flavor. MODILAC is milk adapted to the infant's physiologic requirements by the addition of a selected carbohydrate, replacement of butterfat with corn oil and supplementation with needed vitamins.

Ask for complete information on MODILAC and its companion product MBF (Meat Base Formula). A flexible hypoallergenic formula, MBF provides ideal milk replacement for infants intolerant to milk.

GREAT BOOKS WITH THE SYNTOPICON Booth 35

Chicago, Illinois

HEINZ BABY FOODS Booth 89

Pittsburgh, Pennsylvania

HEINZ BABY FOODS are made by patented "super-quick" cooking process to assure maximum nutrition, fresher flavor and more natural color.

Cereals with Apples and Bananas, also Tuna with Noodles are new varieties.

Infant feeding and prenatal care books and other literature are available on request.

HOFFMAN-LA ROCHE, INC. Booth 56

Nutley, New Jersey

HOLLAND-RANTOS COMPANY, INC. Booth 50
New York, New York

H-R exhibit will feature and representatives will be pleased to discuss:

Hyva Gentian Violet Vaginal Tablets . . . A simple vaginal antimycotic treatment.

Improved Nylmerate Jelly & Nylmerate Antiseptic Solution Concentrate for: Trichomoniasis, Leukorrheas and Mixed Infections.

Hollandex Skin Ointment for dermal disorders—diaper rash; chafing; skin dryness; prickly heat; sunburn.

Koromex (*A*) Vaginal Jelly for conception control when "Jelly Alone" is advised.

Koro-Flex Contouring Diaphragms and Sets.

Koromex Diaphragms and Sets.

Koromex Douche Powder.

INTERNATIONAL PHARMACEUTICAL CORP. Booth 104
Norristown, Pennsylvania

Debrox® . . . for ear wax is a solution of 6.5% Carbamide (Urea) Peroxide in a special anhydrous glycerol vehicle. Debrox was designed to save valuable office time and to spare patients the discomfort of excess instrumentation through its unique chemomechanical cleansing and debriding action. Debrox softens and fragments excess and impacted ear wax, and eases its removal. Debrox is proven non-toxic and non-sensitizing.

Gly-Oxide® liquid is a flavored solution of 10% Carbamide (Urea) Peroxide in specially prepared anhydrous glycerol. Gly-Oxide is antibacterial and antifungal, and exhibits a pronounced cleansing and debriding action which is especially valuable in topical treatment of stomatitis—gingivitis symptoms and other infections of the gums, mouth and throat.

IVES LABORATORIES Booth 85
New York, New York

Ives Laboratories, New York, N.Y., will display the family of Isordil® Products, providing a dosage form of isosorbide dinitrate suitable to the needs of each patient with coronary insufficiency. There will also be featured Cyclospasmol® (cyclandelate), a peripheral and cerebral vasodilator. Representatives will be in attendance to discuss these products and other Ives specialties with you.

JOHNSON & JOHNSON Booth 55
New Brunswick, New Jersey

Johnson & Johnson will display the latest improvements in surgical dressings, as developed by the Johnson & Johnson Research Laboratories. Of special interest is Surgicel Absorbable Hemostat, a major advance in the control of hemorrhage which does not depend upon the normal clotting mechanism. Dermicel Surgical Tape, a newly-improved high strength special-purpose dressing tape for patients with unusual adhesive tape sensitivity is an outstanding addition to the complete line of adhesive tape products. Other products, designed for your office, hospital or patient use, are also displayed. You will find well-informed representatives pleased to discuss these products or provide information on any other items made available by the world's largest manufacturer of surgical dressings and baby products.

KENWOOD LABORATORIES, INC. Booth 54
New Rochelle, New York

Papavatral L. A. is indicated for the long-term management of coronary artery diseases with or without Angina Pectoris. The combination of Ethyl Papaverine HCL and Pentaerythritol Tetranitrate reduces the severity and frequency of Angina attacks by increasing the myocardial blood flow. The action of Pentaerythritol Tetranitrate is as a long-acting potent Vasodilator with action similar to Nitroglycerin. The spasmolytic action of Ethyl Papaverine HCL is 2 to 4 times as potent as Papaverine HCL, therefore smaller doses are necessary to insure similar action.

KEY PHARMACEUTICALS, INC. Booth 58
Miami, Florida

Hyasorb Penicillin—Sustained Action Potassium Penicillin G—250,000 units—Coated to prevent destruction by gastric juices—Maintains blood levels up to 10 hours.

Nitroglyn—Nitroglycerin in sustained action tablet, 1/50 grain, 1/25 grain, 1/10 grain. 2-3 tablets daily prevent angina; preferable to 10-20 doses of sublingual nitroglycerin.

Proternol—Only Sustained Action Isoporternol—HCl available 30 mgm. tablets. Provides more normal life for heart block and Stokes-Adams patients.

Theo-Nar—Long-acting tablet—Relief for asthma sufferers with 2-3 doses per day. Safe, effective in 80 per cent of patients ages 4-74. Tends to reduce or eliminate need for steriod therapy.

L AND M DISTRIBUTORS INC. Booth 99
Yuba City

You see Surgi-Gator in Booth No. 99, the latest breakthrough in perineal treatment and care. Seven years of research have gone into the Surgi-Gator, by Andermac, Inc., doctors and hospitals. The Surgi-Gator is the only automatically controlled unit that gives patients warm water and solution-mix spray, which effectively cleanses and soothes episiotomy and rectal areas. With Surgi-Gator, doctors and hospitals know their patients are getting the best in sanitary cleansing and care. The plastic tips are completely disposable. The solution has been tested for over three years and proven by various hospitals and laboratories in California.

LEDERLE LABORATORIES Booth 8
A Division of American Cyanamid Company
Pearl River, New York

Members of the California Medical Association and their guests will be most cordially welcomed at the Lederle booth, which is No. 8. Our medical representatives, who have access to the world-wide Lederle research organization, are prepared to furnish information regarding Lederle products and your related medical questions.

THOS. LEEMING & CO. Booth 108
Division, Chas. Pfizer & Co., Inc.
New York, New York

Featured in our booth are two products:

Metamine Tablets for angina pectoris; and

Desitin Ointment for prevention of diaper rash; and related products.

ELI LILLY AND COMPANY Booth 17
Indianapolis, Indiana

You are cordially invited to visit the LILLY exhibit in Booth No. 17. The LILLY sales representatives in attendance welcome your questions about our products and offer you precise information about recent therapeutic developments in LILLY research. The exhibit features ANHYDRON® Cylothiazide 2 mg., and AMYTAL® Amobarbital.

LOMA LINDA FOODS Booth 49
Riverside

LOMA LINDA FOODS, manufacturers of the tasty hypoallergenic infant soy milk, SOYALAC, will be pleased to show evidence of the nutritional adequacy of their product. The company is America's exclusive manufacturer of fiber-free soy milk. Qualified attendants will be pleased to explain why this milk is unusual in that it does not tend to raise infant's serum cholesterol. Uses of this milk for adult elder patients and in cholesterol-lowering diets will be discussed. Samples of this flavorful product will be served.

P. LORILLARD COMPANY Booth 1
New York, New York

You are cordially invited to visit the P. LORILLARD Exhibit. LORILLARD Research is responsible for the development of the new Micronite Filter, which selectively filters phenol from cigarette smoke. We would like to acquaint you with details of this research, and will be pleased to give you a sample of KENT CIGARETTES, the product that features the new Micronite filter. If you are a menthol cigarette smoker, you may select NEWPORT CIGARETTES, another fine product of LORILLARD research.

Please stop by for your gift of KENT or NEWPORT CIGARETTES.

MAGNUSON X-RAY CO. Booth 36
Los Angeles

PROFEXRAY diagnostic x-ray equipment offers ultimate in push-button automatic operation yet permits full flexibility to allow for special techniques.

THE S. E. MASSENGILL COMPANY Booth 42
Bristol, Tennessee

MASSENGILL and our representatives wish the members of the California Medical Association a full and successful meeting in every respect. Trained representatives will be in our booth and will be happy to discuss, and inform you of, our many outstanding specialty products. Literature will be available, as will starter-dose registration blanks for those members desiring material of any type to be delivered to their offices by our representatives.

McNEIL LABORATORIES, INC. Booth 68
Fort Washington, Pennsylvania

Members of the California Medical Association are cordially invited to visit our Booth No. 68, Mr. Hugh A. Harley in charge. Products to be featured are: BUTIBEL,® BUTISOL SODIUM® butabarbital sodium, PARAFON FORTE® and TYLENOL® acetaminophen.

MEAD JOHNSON LABORATORIES Booth 45
Evansville, Indiana

The MEAD JOHNSON LABORATORIES' exhibit has been arranged to give you the optimum in quick service and product information. To make your visit productive, specially trained representatives will be on duty to tell you about their products.

MEDICAL MANAGEMENT CONTROL Booth 95
Member: Society of Professional Business Consultants
San Francisco

Material and information on the four major areas of service to which MEDICAL MANAGEMENT CONTROL devotes itself exclusively in serving the physician's needs in the management of solo, partnership, group or association practice. These areas include:

1. Practice management consultation including bookkeeping services, tax and financial planning and control.
2. Facilities management—Including feasibility studies, planning construction, creation, supervising, and reorganization Medical Arts Centers.
3. General and special surveys of solo, partnerships, groups and associations.
4. Partnership, group and association management including business advice on formation of such groups and follow-through procedures to insure successful operation.

THE MEDICAL PROTECTIVE COMPANY Booth 86
Fort Wayne, Indiana

With exceptional proficiency in defense, so essential to the Doctor's protection today, THE MEDICAL PROTECTIVE COMPANY offers unexcelled coverage in any claim or suit for damages based on professional services rendered or which should have been rendered. Its experience from the successful handling of 86,000 claims and suits during 65 years of Professional Protection Exclusively is unparalleled in the professional liability field.

MERCK SHARP & DOHME Booth 14
West Point, Pennsylvania

The theme of the MERCK SHARP & DOHME exhibit is "SERVICE TO MEDICINE". One phase features the details of the MERCK SHARP & DOHME Postgraduate Program. Another feature includes information on teaching films for use by the profession and, also, lay films that can be utilized to portray the story of medicine to the lay public. The exhibit is concluded with a display of fingertip files on selected MERCK SHARP & DOHME products.

MILEX-FERTILEX CO. Booth 102
Los Angeles

Ask for your reception room copy "*A Doctor Discusses Pregnancy*". Request to see our unique cancer screening instruments.

MISSION PHARMACAL CO. Booth 87
San Antonio, Texas

MISSION will present the following products: HOMAPIN-4, a potent antispasmodic which is reported to be four times as potent as atropine in depressing ganglionic transmission; PRULET TABLETS, a gentle laxative, containing an active ingredient which is analogous to a substance found in prunes; SUPAC-B, analgesic tablets, is a superior A.P.C.

NATIONAL INSTITUTE OF DIAPER SERVICES Booth 105
Child's Diaper Service, Arcadia

NELSON SPECIALTY CORPORATION Booths 43 & 44
San Leandro

Our exhibit will consist of two of our latest NELSON MULTIPURPOSE HOSPITAL BEDS, and they will be demonstrated throughout the exhibit period.

THE NETTLESHIP COMPANY OF LOS ANGELES Booth 92
Los Angeles

Administrators of Professional Liability, Group Accident & Sickness, and Life Insurance Programs for County Medical Associations in Southern California.

Qualified representatives available to discuss problems pertaining to hospital or individual professional liability coverage, accident & sickness, life, or other types of insurance.

Literature, which will assist in the prevention of claims and various forms to be used to protect, as far as possible, against malpractice claims.

NEUTROGENA CORP. Booth 73
Santa Monica

NEUTROGENA SOAP . . . Is a mild, transparent ethanolamine base soap and contains no free alkali. It is not a detergent nor is it medicated; yet so different that it was recently granted a U.S. Patent #2,820,768. NEUTROGENA is mild, not drying and not irritating. It is well tolerated in cases of common dermatitis, cradle cap, diaper irritation, eczema, acne and other common skin problems . . . especially where washing with soap is contra-indicated.

ORGANON INC. Booth 29
West Orange, New Jersey

You are cordially invited to visit our exhibit at Booth No. 29. Of particular interest: HEXADROL® (dexamethasone)—one of the newer corticosteroids, DECA-DURABOLIN® (nandrolone decanoate)—a long-acting anabolic agent. Our professional service representatives welcome the opportunity to answer your questions concerning HEXADROL (dexamethasone), DECA-DURABOLIN (nandrolone decanoate) or any of our other preparations.

ORTHION, INC. Booth 62
Newport Beach

ORTHION was designed for and is now sought particularly by physicians in general practice, physiatrics, industrial medicine, geriatrics, and orthopedics. The ORTHION THERAPEUTIC TABLE applies 5 proven therapies simultaneously—cervical traction, leg or pelvic traction, paravertebral massage, soft tissue stimulation, and heat. ORTHION spinal therapy aids the physician in achieving muscular, nerve and vertebral improvement in the entire spinal system. You are cordially invited to have a personal demonstration.

ORTHO PHARMACEUTICAL CORPORATION Booth 66
Raritan, New Jersey

ORTHO is proud to present a complete line of products for the control of conception. Of special interest are ORTHO-NOVUM Tablets, the oral product specifically designed for contraception. Also on display are our well-known products for the treatment of various forms of vaginitis.

Your questions will be welcomed.

PACIFIC TELEPHONE AND TELEGRAPH CO. Booth 71
Los Angeles

Our exhibit will show the latest equipment designed to assist and aid the modern physician. Hands-free type telephone, automatic answering equipment and automatic dialers will highlight our exhibit.

PARKE, DAVIS & COMPANY Booth 13
Detroit, Michigan

Medical service members of our staff will be in attendance at our booth to discuss important PARKE-DAVIS specialties which will be on display.

PASADENA RESEARCH LABORATORIES, INC. Booth 77
Pasadena

PFIZER LABORATORIES Booth 19
New York, New York

Professional Service Representatives from PFIZER LABORATORIES will be pleased to have you in attendance at their booth to discuss the latest products of PFIZER research.

THE PROCTER & GAMBLE COMPANY Booths 46-47
Cincinnati, Ohio

IVORY SOAP (Procter & Gamble) offers a series of time-saving leaflet pads for doctors, each pad containing fifty identical tear-out sheets. These sheets, which may be given to patients, contain routine instructions covering general home care.

There are also samples of other free, helpful material prepared especially for physicians.

R. J. REYNOLDS TOBACCO COMPANY Booth 30
Winston-Salem, North Carolina

Welcome to the R. J. REYNOLDS TOBACCO COMPANY Exhibit! You are cordially invited to receive a cigarette case (monogrammed with your initials) containing your choice of CAMEL, WINSTON Filter, Menthol Fresh SALEM, or CAVALIER King Size Cigarettes.

RIES BIOLOGICALS Booth 53
Los Angeles

BIO-HEPRIN, premium quality brand of heparin sodium USP, 40.000 U.S.P. units per cc, will be featured.

For the doctor who is interested in the Lipoprotein Lipase Enzyme action of heparin, we will have data available to point out why it is important he choose a heparin quality that is as close as possible to endogenous heparin (and why BIO-HEPRIN 160-190 unit per mg. heparin salt is important).

RIKER LABORATORIES, INC. Booth 21
Northridge

Representatives of RIKER LABORATORIES, INC. will be glad to supply you with complete information concerning our products which are available to the medical profession. Please feel free to request answers to any questions you may have. We will be looking forward to your visiting our booth.

RITTER COMPANY, INC. Booth 59

Rochester, New York

Ritter Company, Inc. invites you to see its exhibit featuring the new Ritter "75" Universal Table with mobile foot control and other exclusive features, the new low-priced Bantam Bovie for office electrosurgery, the first unit to give a complete range of electrosurgery yet small enough to be wall-mounted, the popular Castle No. 8 Light and the Castle 777 Speedclave for simple, trouble-free sterilization.

A. H. ROBINS COMPANY, INC. Booth 40

Richmond, Virgina

Welcome to the Convention, Doctor, from the A. H. Robins Company.

We hope you can stop at our display for a moment. The representatives there will be happy to answer any questions you may have about our products and explain their advantages.

Products Featured: Quindex-Dimetapp.

ROCHE LABORATORIES Booth 25

Nutley, New Jersey

New Valium (diazepam) is of use in dealing with tension states stemming from stressful circumstances of whenever somatic complaints are concomitants or emotional factors. It is useful in psychoneurotic conditions manifested by tension, anxiety, fear and fatigue.

Valium (diazepam) may also be useful in the alleviation of muscle spasm and spasticity associated with cerebral palsy and athetosis and aid in acute agitation due to alcohol withdrawal.

J. B. ROERIG AND COMPANY Booth 74

New York, New York

J. B. Roerig and Company will welcome members of the medical profession at the company's exhibit of leading specialty products. Representatives will be in attendance to answer any questions you may have. Roerig recently introduced a number of new products which representatives at the exhibit will describe and give information on the results of clinical reports.

ROSS LABORATORIES Booth 37

Columbus, Ohio

Ross Laboratories, manufacturer of Similac, Similac With Iron, and Similac PM 60/40 presents the new Ross Infant Feeding System. This is a simplified system for infant feeding in the hospital consisting of prediluted and presterilized Similac and Similac With Iron in disposable nursing bottles. The system offers increased safety, efficiency and economy in formula preparation. In addition to the Similac formulas, sterile 5 per cent glucose water in disposable 3 oz. nursing bottles are included.

SANBORN COMPANY Booth 79

Waltham, Massachusetts

The new Viso-Monitor and Hemodiluter as well as the new Sanborn/Frommer Cell Counter and Electrocardiographs of advanced design and function together with the latest models of other instruments for diagnostic use, will be displayed and demonstrated at the Sanborn Company Booth No. 79.

Demonstrations and/or data will also be available on Sanborn instruments for biophysical research—oscillographic magnetic tape recording systems, monitoring oscilloscopes and physiological transducers.

Qualified Sanborn representatives will be pleased to answer questions and assist you with technical problems.

SANDOZ PHARMACEUTICALS Booth 83

Hanover, New Jersey

Sandoz Pharmaceuticals cordially invites you to visit our display at Booth No. 83, where we are featuring Mellaril, Sansert, Fiorinal and Fiorinal with codeine.

Any of our representatives in attendance, will gladly answer questions about these and other Sandoz products.

W. B. SAUNDERS COMPANY Booth 64

Philadelphia, Pennsylvania

New Saunders books published since last year's meeting include: *Current Therapy 1964;* Bockus: *Gastroenterology, Vol. II;* Gellis and Kagan: *Pediatric Therapy;* Emmett: *Urography;* and Pernkopf: *Full Color Atlas of Topographical Anatomy.*

SCHERING CORPORATION Booth 26

Bloomfield, New Jersey

You are cordially invited to visit the Schering technical exhibit where the following products will be featured: Naqua®, effective oral diuretic—and antihypertensive; Celestone®, most active corticosteriod available; and Chlor-Trimeton®, unsurpassed antihistamine.

G. D. SEARLE & CO. Booth 23

Chicago, Illinois

You are cordially invited to visit the Searle booth where our representatives will be happy to answer any questions regarding Searle Products of Research.

SEVEN UP BOTTLING COMPANY Booth 109

Los Angeles

Chilled Seven Up will be served by our Hostesses to delegates attending the convention.

SHELLEY PROFESSIONAL PRODUCTS, INC. Booth 34

Los Angeles

Newly designed and engineered All-Formica Shelley "Futura" Examining Table featuring deep, spacious storage drawers that glide on nylon bearings on tracks welded to a steel frame. New contour upholstered top employing polyeurethene foam padding as standard at no additional charge—Convenient electrical outlets and drawers at the foot of the Table—A remarkable retractable footstep adds to the many conveniences incorporated in this fine Table. Also on display will be Shelley Modular Cabinets.

SHERMAN LABORATORIES Booth 91

Detroit, Michigan

Elixophyllin®

More air for your asthmatic patients—faster—with Elixophyllin. Sustained action: 24 hour bronchodilation with dosage q. 8 hr. Clinically proved by 25 *published* studies.

Severe attacks terminated in 10 to 20 minutes. Get a plastic bottle for your bag at our booth. Reprints are also available—sent to your office on request.

SMITH KLINE & FRENCH LABORATORIES Booth 39
Philadelphia, Pennsylvania

May we discuss the use of SK&F products in your specialty? Our representatives are on duty to answer specific questions you may have. Also, information on SK&F Medical Films and other special services is available on request.

SMITH KLINE—PRECISION COMPANY Booth 2
Philadelphia, Pennsylvania

Smith Kline—Precision Company is pleased to demonstrate the Ekoline 20 Diagnostic Ultrasonoscope. This new clinical instrument provides a simple, rapid and safe means of detecting brain midline displacement caused by tumors, hematomas and other space-occupying lesions in the brain.

SMITH, MILLER & PATCH, INC. Booth 94
New Brunswick, New Jersey

Featured at our exhibit will be Lipoflavonoid, a new nutritional approach to the problem of vertigo and sensorneural hearing loss associated with Menier's disease; Vitron-C, a well tolerated and effective hematinic; Lipotriad, a nutritional approach to therapy for the coronary-prone and diabetic patient; Vasocon-A, an antihistamine/decongestant for topical ophthalmic use and Vasosulf, a new topical ophthalmic solution containing an antibacterial and decongestant.

E. R. SQUIBB & SONS Booth 69
New York, New York

E. R. Squibb & Sons has long been a leader in development of new therapeutic agents for prevention and treatment of disease. The results of our diligent research are available to the Medical Profession in new products or improvements in products already marketed.

At Booth No. 69, we will be pleased to present up-to-date information on these advances for your consideration.

STACEY'S Booth 38
Retail Stores in: Denver—Palo Alto—San Francisco—Seattle

Stacey's, the largest distributor of medical books in America, will be in attendance with a large display featuring the latest important books from all medical publishers, plus 'up-to-the-minute' information about forthcoming books in each specialty. If you have not received your free copy of *Medical Books in Print*, be sure to stop at Booth No. 38!! Stacey's will have a limited supply on hand.

THE STUART COMPANY Booth 11
Pasadena

A cordial invitation is extended to all members and guests attending this meeting to visit the Stuart Company booth. Specially trained representatives will be in attendance to answer your questions on new products, developed in our modern laboratories, which have particular interest for the medical profession. Products featured are Mylanta, Stuart Prenatal-F, Mulvidren-F, Mulvidren Junior and Cari-Tab.

SYNTEX LABORATORIES, INC. Booth 67
Palo Alto

The Syntex exhibit will feature the successful topical steroid Synalar (fluocinolone acetonide), setting a new standard of success in the treatment of a wide range of dermatoses. Synalar is available in four forms.

Synalar Cream 0.25 per cent; Synalar Ointment 0.25 per cent—for initiation of therapy;

Synalar Cream 0.01 per cent—for maintenance; and

Neo-Synalar—for treatment of infected dermatoses.

Synalar 0.25 per cent and Neo-Synalar are available in 5 and 15 gm tubes and Synalar 0.01 per cent is available in a 45 gm tube. Synalar Ointment is available in 15 gm tubes only.

Booth A

Norinyl® (Norethindrone 2.0 mg with mestranol 0.1 mg) tablets, an original steroid from Syntex Laboratories, will be featured at Booth A. Norinyl 2 Mg supersedes artificial methods of contraception. Physicians are invited to register at the Syntex exhibit for complete information on this outstanding new product.

TAB PRODUCTS CO. Booth 101
San Francisco

Spacefinder filing equipment for Medical Offices. Spacefinders are shelf type, cabinet enclosed filing in all welded cabinets with retractable doors.

Unit Spacefinder filing equipment. You file in a box that hangs on a rail. Four inch wide, fiber board box slides easily back and forth on steel rails in a free standing steel frame. This system gives the utmost in visibility and accessibility.

THERMO-FAX SALES INCORPORATED Booth 72
Los Angeles

Thermo-Fax Copying Machines—3M Dry Photo-Copiers. A system will be demonstrated showing how 250 monthly statements are processed and ready-to-mail.

TRU-EZE MFG. CO., INC. Booth 90
Burbank

Demonstrating the "Tru-Trac" portable intermittent traction machine. Adaptable to vertical cervical traction or horizontal cervical and lumbar traction.

Also showing the New "Tru-Trac" RT-99 Traction and Therapy Table. Split in two sections: lumbar section operates on ball-bearing rollers, cervical traction at any angle up to 45 degrees.

For the profession with limited office space see the "Tru-Trac" Flexion Traction Chair. Traction at any angle up to 45 degrees providing definite *flexion*.

Improved traction sets for home use.

UNIVERSAL SURGICAL SUPPLY, INC. Booth 88
(Western Surgical) El Segundo

Display of the latest equipment and supplies serving the Medical Profession.

THE UPJOHN COMPANY Booths 6 & 7
Kalamazoo, Michigan

U.S. VITAMIN & PHARMACEUTICAL CORP. Booth 18
New York, New York

Of special interest at the U. S. Vitamin & Pharmaceutical Corporation booth is C.V.P.—the original and exclusive bioflavonoid compound containing the many active water-soluble factors of the natural bioflavonoid complex from citrus . . . combined with ascorbic acid. They are believed to act by decreasing capillary permeability and fragility, thereby reducing bleeding or diapedesis from these vessels.

WALLACE LABORATORIES Booth 81
Cranbury, New Jersey

Wallace Laboratories presents Soma to relieve pain, stiffness and spasm in muscle and joint complaints. Soma has been highly effective in many musculoskeletal disorders, including arthritis, fibrositis, myositis, spondylitis, backache, sprains, contusions, and whiplash injuries. Soma relieves pain and stiffness promptly. No side effects other than sleepiness have been observed.

WARNER-CHILCOTT LABORATORIES Booth 22
Morris Plains, New Jersey

The products to be featured are: Peritrate®, Proloid®.

WESTWOOD PHARMACEUTICALS Booth 82
Buffalo, New York

Westwood invites physicians to stop by their booth to discuss their unique dermatological products:

Fostex Cream, Lowila Emollient, Sebulex, Alpha-Keri.

These products are particularly suitable for personal use by physicians and their families who may be plagued with dandruff, acne, dry and itchy skin, and sensitivities to soap. Register, so that we may send prescription units to your home.

WHITE LABORATORIES, INC. Booth 70
Kenilworth, New Jersey

White Laboratories' Exhibit features an important new prescription product—Disophrol Chronotab Tablets. Medical Service Representatives will be happy to discuss the many indications and the superior therapeutic effectiveness of this preparation.

WINTHROP LABORATORIES Booth 93
New York, New York

You are cordially invited to visit the Winthrop Booth No. 93 where representatives will be pleased to give you information on latest developments in the field of medicine. The exhibit features, Trancogesic (Chlormezanone with Aspirin).

W-T-S PHARMACEUTICALS Booth 84
Rochester, New York

Desenex: Most widely prescribed fungicide used in the prevention and treatment of athlete's foot and other superficial fungous infections of the skin.

Caldesene: Provides a lubricating and emollient film which is effective in the prevention or treatment of diaper rash and minor skin irritations.

QUALIFICATIONS/REQUIREMENTS FOR REGISTRATION

(a) All M.D.'s with credentials showing that they hold valid license to practice medicine. (Membership card in C.M.A.; county medical society/association or A.M.A. membership card.)

(b) Medical students will be admitted upon presentation of credentials from their medical schools identifying them as medical students. (A membership card of the Student American Medical Association or letter from their dean's office.)

(c) Medical secretaries will be admitted upon presentation of a letter from the physician employer.

(d) Pharmacist mates and other military personnel of a like grade will be admitted upon presentation of a letter requesting their admittance, written by their commanding officer.

(e) Dentists (D.D.S.), doctors of veterinary medicine (D.V.M.), registered nurses (R.N.), student nurses, x-ray technicians, laboratory technicians, allied public health personnel, and others will be admitted provided they have proper identification.

(f) All questions on admission will be passed upon by a member of the Committee on Registration who will be present at the desk.

OFFICERS AND DELEGATES

General Officers

Samuel R. Sherman, San Francisco	President
James C. Doyle, Beverly Hills	President-Elect
William F. Quinn, Los Angeles	Speaker of House of Delegates
Ivan C. Heron, San Francisco	Vice-Speaker of House of Delegates
Carl E. Anderson, Santa Rosa	Chairman of Council
Matthew N. Hosmer, San Francisco	Secretary
Dwight L. Wilbur, San Francisco	Editor
Howard Hassard	Executive Director
John Hunton	Executive Secretary
Peart, Baraty & Hassard	Legal Counsel

House of Delegates

TOTAL DELEGATES (320)

DELEGATES EX-OFFICIO (68)

Samuel R. Sherman, San Francisco	President
James C. Doyle, Beverly Hills	President-Elect
William F. Quinn, Los Angeles	Speaker of House of Delegates
Ivan C. Heron, San Francisco	Vice-Speaker of House of Delegates
Carl E. Anderson, Santa Rosa	Chairman of Council
Matthew N. Hosmer, San Francisco	Secretary
Dwight L. Wilbur, San Francisco	Editor

COUNCILORS

James C. MacLaggan (1964)	First District
Llewellyn E. Wilson (1964)	Second District
Malcolm C. Todd (1965)	Office No. 1, Third District
Elmer Gooel (1966)	Office No. 2, Third District
J. Norman O'Neill (1964)	Office No. 3, Third District
Lewis T. Bullock (1965)	Office No. 4, Third District
Joseph P. O'Connor (1966)	Office No. 5, Third District
Franklin F. Ham (1964)	Office No. 6, Third District
Wilbur G. Rogers, (1965)	Office No. 7, Third District
James W. Dalton (1964)	Fourth District
John F. Murray (1966)	Fifth District
Burt L. Davis (1964)	Office No. 1, Sixth District
Albert G. Miller (1965)	Office No. 2, Sixth District
Malcolm S. M. Watts (1966)	Office No. 1, Seventh District
Donald M. Campbell (1964)	Office No. 2, Seventh District
Charles B. Hudson (1966)	Office No. 1, Eighth District
William F. Kaiser (1964)	Office No. 2, Eighth District
Carl E. Anderson (1964)	Ninth District
Dave F. Dozier (1965)	Tenth District
Forest J. Grunigen (1964)	Office No. 1, Eleventh District
Joseph P. Cosentino (1965)	Office No. 2, Eleventh District
Edward B. Shaw (1964)	Scientific Board Representative

ELECTED DELEGATES (252)

Alameda-Contra Costa (17)

Delegates	*Alternates*
Ackerman, Frederick	Adams, Robert
Anderson, Conrad E.	Barron, Gilbert
Armstrong, James	Black, Daniel W.
Bassett, J. Brandon	Byers, Gilbert
Blasdel, Edward	Donald, William G., Jr.
Charvet, Leonard W.	Eisenberg, Harold J.
Cronenwett, Paul	Etheredge, Samuel N.
Goetsch, Carl	Harms, Herbert
Goggio, Alfred	Hart,Charles
Holden, Herbert	Kerns, Claude
Hoskins, H. Dean	Maloney, Harold
Kay, Harold	Newton, Paul
Keig, William	Purcell, Edward F.
Stephens, George	Rihn, Richard J.
Truman, Stanley R.	Ross, Joseph
Twigg, Edward	Taines, Robert
Wiesinger, Warren E.	Whiting, E. Gale

Butte-Glenn (2)

Delegates	*Alternates*
Elmendorf, Thomas	Ritter, Dale W.
Murphy, Franklin L.	Sears, A. R. M.

Forty First (20)

Delegates	*Alternates*
Bailey, K. Grosvenor	Angell, A. E.
Bean, Joseph P.	Baker, Thomas
Beeson, J. Raymond	Bennett, D. Clinton
Christensen, Joseph R.	Carroll, Vincent P.
Cowell, H. Stanley	Fawns, Lynn W.
Epperson, J. Gordon	Feist, John P.
Feinberg, Munish	Glanz, Franklin S.
Frantzich, Otto A.	Gordon, Glenn F.
Futterman, Milton S.	Grasska, William J.
Hopps, Walter W., Jr.	Johnson, Richard W.
MacCracken, Frank E.	Jones, Dwight H.
Marsh, Dorothy J.	Kammerman, Richard F.
McGillis, Loron	Kaupke, John M.
Oddo, Nicholas V.	Myers, Perry Eugene
Parker, Robert W.	Pessis, Jack
Payne, David H.	Randolph, Homer
Phillips, Jordan M.	Sargent, Kenneth J.
Teale, Stephen P.	Siegel, Herman F.
Van Maren, Harold B.	Willsie, Charles W.
Yates, Paul D.	Wittmer, Cleo C.

Fresno (4)

Delegates	*Alternates*
Argo, W. L.	Fulmer, H. F.
Howard, Arthur F.	Gray, Clell C., Jr.
Kass, Robert	Snyder, L. J.
Smith, Robb	Whitten, Richard

Humboldt-Del Norte (2)

Delegates	*Alternates*
Dohn, H. Phillip	Davis, William W.
Loring, Theodore	Henderson, Justus

Imperial (2)

Delegates	Alternates
Jaquith, George	Tepper, Sidney M.
Schoensee, Burke E.	Worthman, Robert H.

Inyo-Mono (2)

Delegates	Alternates
(2 Vacancies)	(2 Vacancies)

Kern (3)

Delegates	Alternates
Day, Robert L.	Ellis, John F.
Strongin, Seymour	Friend, James R., Jr.
Vaughan, J. E.	Osell, Levin N.

Kings (2)

Delegates	Alternates
Brookshier, R. W.	Christensen, L. F.
Kerr, Edwin E.	Dittes, William

Lassen-Plumas-Modoc-Sierra (2)

Delegates	Alternates
Bross, Williard S., Jr.	Henriques, C. C.
Quinn, William J.	Narkevitz, J. F.

Los Angeles (75)

Delegates	Alternates
Albright, Robert W.	Allin, John G.
Asher, Leonard M.	Anderson, James E.
Axelrod, Bernard	Attyah, Albert M.
Bailey, Wilbur	Barnett, Ernest R.
Baker, Jack W.	Beattie, Arthur S.
Barker, Donald E.	Bouch, Gene R.
Barry, Donald J.	Brennan, John C.
Beckerman, George E.	Brown, Robert N.
Bills, Jack W.	Buckley, Robert
Bowen, Gordon T.	Burke, Donald E.
Bowton, F. Lowell	Burrows, Herbert L.
Boyle, Joseph F.	Caillouette, James
Briney, Allan K.	Carlson, Carroll C.
Buehler, George S.	Carter, Robert V.
Bullis, John A.	Case, Walter G.
Bullock, Lewis T.	Compton, Russell F.
Cherry, Ian S.	Condit, Leonard O.
Conti, James G.	Crowe, Harold E.
Cook, Eugene Lee	Doria, Carl J.
Crane, Edward H., Jr.	Elshire, H. Donel
Crane, Jay J.	Evashwick, George
Doehring, Paul C.	Feinfield, Arthur
Donahue, D. W.	Frank, William P.
Dummer, Jerome	Golden, Robert F.
Earl, Donald H.	Golenternek, Joe
Eder, David	Goodwin, William E.
Fitch, Donald R.	Guinney, Francis E.
Furer, Stanford A.	Hanchett, Richard B.
Goldman, Theodore H.	Hansen, Martin E.
Gooel, Elmer F.	Harnagel, Edward E.
Halasey, Thomas	Horton, James W.
Hamel, Neal C.	Jacobs, Laurence L.
Haskell, M. M.	Kirchner, Arthur A.
Heiser, Saul	Lask, Salvadore A.
Hill, Harry E.	Lau, Michael W.
Hoffman, Eugene F.	Lichtenstein, Irving L.
Isaacs, Julien H.	Lynn, Jack
Kempf, Paul Ruben, Jr.	Mailman, Richard H.
Kuntz, George S.	Mayne, John C.
Kuris, David B.	McCandless, Harrison
Longmire, Wm. P., Jr.	Mietus, A. C.
Macdonald, Ian	Milliken, Ralph M.
MacInnis, Douglas N.	Morgan, Frank M.
Mauer, Edgar F.	Morton, Daniel G.
May, Lewis H. V.	Mueller, Robert L.
McCleary, Jack E.	Murasky, Stanley J.
McCleery, Walter S.	Norene, Robert A.
Mercer, Marshall M.	Olsen, Jack G.
Miller, Richard D.	Peeke, George O.
Mooney, Herbert S.	Platz, Edward H.
Murrieta, A. J., Jr.	Ragan, John T.
Neibling, Harold A.	Rogers, Frank A.
Neuenschwander, Robert S.	Rolland, Ward M.
Paxton, Frank F.	Ross, William L.
Polito, S. Robert	Rothenberg, Sanford F.
Polack, John V.	Salkin, Murray R.
Quinn, William F.	Schade, Frank F.
Ross, Rex L.	Smith, Thayer A.
Sampson, J. Philip	Snell, Marvin V.
Shearer, Sherley K.	Stauffer, Floyd R.
Smart, Reginald H.	Tashma, Albert
Smith, Eldon E.	Thom, John G.
Smith, Gordon K.	Thompson, Wm. Benbow, Jr.
Sommer, Melvin L.	Trumbull, William E.
Stout, Carlyle F.	Turrill, Fred L.
Stout, Joseph H.	Watson, John William
Stragnell, Robert	Weber, Robert A.
Taw, Richard L.	Welch, Jack H.
Todd, Malcolm C.	Westerbeck, Charles W.
Voigt, Philip F.	Westwater, John O.
Watson, Robert L., Jr.	White, Keith C.
Weekes, Leroy R.	Wong, Thomas A.
Wilkins, Harold E.	Woolington, Sam
Witherbee, Harold R.	Wunderlich, E. E.
Woodruff, John H., Jr.	Zinn, Willard Jack

Marin (3)

Delegates	Alternates
Mills, Robert L.	Lee, John R.
Van Pelt, M. Alden	Wagner, Leo A.
West ,Robert	Weden, Elmer, Jr.

Mendocino-Lake (2)

Delegates	Alternates
Roberson, B. B.	Waring, William
Smalley, Robert B.	Wilson, L. B.

Merced (2)

Delegates	Alternates
Harner, Robert C.	Brewer, A. Frank
McDowell, B. E.	Jackson, Edward A.

Monterey (3)

Delegates	Alternates
Clark, Howard E.	Hull, Osman H.
Englehorn, T. D.	Miles, Howard C.
Fassett, James R.	Turner, Joseph E.

Napa (2)

Delegates	Alternates
Brignoli, Walter H.	Ashley, Robert C.
Rose, Edgar Kash	Ledwich, Thomas

Orange (9)

Delegates	Alternates
Altman, Richard F.	Anderson, William T.
Ball, Dexter T.	Ball, Robert E.
Hanigan, Thomas E.	Bode, Arnold G. H.
Paul, Carl J.	Geddes, David
Pettis, Emmett M.	Gerrie, Wallace A.
Plumb, Hugh J.	Jett, Jim
Price, J. B.	Lowe, Waynard W.
Whittaker, L. F.	Mosier, Laurance A.
Wickett, Wm. H., Jr.	Thomassen, Elmer H.

Placer-Nevada (2)

Delegates	Alternates
Dubin, Nathan	Bailey, Nicholas
Joye, K. M.	Mathewson, John A.

Riverside (4)

Delegates	Alternates
Abbott, Donald	Ivanoff, John
Fitzmorris, Andrew	Payton, Robert
Peterson, John R.	Sheehy, John J.
Stone, H. H.	Stone, Vean M.

Sacramento (6)

Delegates	Alternates
Berman, A. E.	Airola, Virgil R.
Grayson, Charles E.	Boyers, L. Morgan
Horn, Carl E.	Farley, James O.
Pope, Glenn A.	Hause, Donald P.
Teall, Ralph C.	Rooney, Pierce A.
Yant, James H.	(1 Vacancy)

San Benito (2)

Delegates	Alternates
Moore, Ernest	Bradt, Jack O.
Quinn, Robert D.	Taylor, Kent

San Bernardino (5)

Delegates	Alternates
Halburg, Clarence T.	Gattas, Fred A.
Melone, Frank C.	Hendrickson, Merlin A.
Miano, Ben D. A.	Hill, Harold M.
Sprague, Charles P.	Krikes, Nicholas P.
Varden, Arthur E.	Sterling, Allen F.

San Diego (11)

Delegates	Alternates
Carpenter, Walter F.	Brumbaugh, Simon C., Jr.
Fairchild, L. H.	Kirtland, Howard B., Jr.
Hippen, Robert L.	Messenger, Harold M.
Hokr, William K.	Moore, Stanley A.
Isenhour, Roger C.	Peabody, Homer D., Jr.
King, Ralph M.	Peck, J. Haddon A., Jr.
Levy, Edward L.	Peck, Sam
Robinson, Frank H.	Plumb, Robert T.
Rumsey, John M.	Rumsey, Eugene W.
Tancredi, Chester	Wells, John J.
Telford, Joseph W.	Youel, Milo A.

San Francisco (19)

Delegates	Alternates
Auerback, Alfred	Baer, Charlotte C.
Bender, William T.	Burnham, DeWitt K.
Bryan, John	Clark, Albert G.
Fenlon, Roberta	Combs, Robert C.
Fullenlove, Tom M.	Cook, Robert E.
Gibbons, Henry, III	Erskine, John M.
Herrod, Chester E.	Foster, Sidney E.
Herzog, George K., Jr.	Fraser, Alexander
Hopp, Eugene S.	Gallagher, Donald M.

Delegates	*Alternates*
San Francisco (Continued)	
Mettier, Stacy R., Jr.	Hurwitz, Samuel
Rixford, Emmet L.	Jew, Jack
Robinson, Saul J.	Leach, Charles W.
Saunders, John B. deC. M.	Musser, Don C.
Schaupp, John B.	Newsom, William A.
Sirbu, Abraham B.	O'Gara, Louis A.
Wayburn, Edgar	Pillsbury, Philip L.
Weyrauch, Helen B.	Salomon, Maurice S.
Williams, A. Justin	Webb, Eugene M.
Young, Bradford	Webb, Gilbert A.
San Joaquin (3)	
Benn, James J.	Nickols, Bruce
Harrington, Donald C.	Salter, Robert
McNally, John	Williams, George
San Luis Obispo (2)	
Kirk, Stanley	Chambers, James
Middleton, Joseph G.	Gaebe, Laurence
San Mateo (7)	
Brown, Henry A.	Aycinena, Juan
Fox, Norman C.	Healy, Francis A.
Hart, Ward L.	Kohn, Martin M.
Hills, Oscar W.	Larsen, William G.
Lindsey, Howard W.	Richanbach, Henry S.
Novak, Frank J.	Rossiter, Stanford B.
Saidy, John T.	Storli, Edgar A.
Santa Barbara (4)	
Hill, T. K.	Blanchard, John
McNiece, Kenneth	Dereniwski, Edward
Owens, Daniel	Kinsell, C. Seybert
St. John, James	McGinnis, Robert
Santa Clara (10)	
Beeson, Gerald	Clark, William
Boice, Clyde	Cramer, Harold
Dennis, Robert	Giansiracusa, Frank
Foster, Thomas N.	Houck, George
Fox, Leon P.	Hull, David I.
Liston, Edward	Kaufman, S. Fred
Scarborough, C. Gerald	Kelly, Allen
Silver, Emmanuel	Mitchell, Sidney
Skillicorn, Stanley A.	O'Neill, Robert
Wilbur, Richard	Peck, Clemmer
Santa Cruz (2)	
Rousseau, Robert	Hoskins, W. W.
Spencer, James A.	Squire, Robert
Shasta-Trinity (2)	
Martin, George A.	Nilssen, William, Jr.
Miller, Charles D.	Sandrock, William
Siskiyou (2)	
Bayuk, R. W.	Landon, Jack
Schnack, William D.	Meamber, Donald
Solano (2)	
Garrett, Robert L.	Gullock, Alvin H.
Olson, William J.	Schmutz, Melvin A.

Delegates	*Alternates*
Sonoma (3)	
Butler, Robert H.	Barnett, Richard C.
Sharrocks, Horace F.	Clary, David T.
Zieber, R. L.	Close, Myron B.
Stanislaus (3)	
Hatch, Francis N.	Deyoe, George W.
New, David J.	Nelson, William R.
Purvis, Robert	Pyles, Gordon
Tehama (2)	
(2 Vacancies)	(2 Vacancies)
Tulare (2)	
Feldmayer, James E.	Brauner, E. P.
Lavers, George D.	Goettle, James W.
Ventura (3)	
Helbling, Franklin K.	Hair, C. M.
Huff, W. Cloyce	Maguire, J. F.
Moore, J. W.	Nelson, James H.
Yolo (2)	
Sobeck, Frederick J.	Saltsman, John
Young, Corbin	Ward, Cameron S.
Yuba-Sutter-Colusa (2)	
Boyer, Warren	Cusick, George
Heckman, John R.	Wiliams, James D.
Ex-Officio Scientific Board (18)	
Belford, William W.	Biskind, Gerson R.
Bettman, Jerome W.	Daniels, Albert C.
Blanchard, Leland B.	Franzi, A. J.
Dillon, John B.	Garland, L. Henry
Farber, Eugene M.	King, Don
Goerke, L. S.	Rantz, Lowell A.
Heck, Walter E.	Reynolds, Telfer B.
Kaufman, Joseph J.	
Keeney, Edmund L.	
Neufeld, Alonzo J.	
Knox, Stuart C.	
Petit, Donald W.	
Richards, Victor	
Rubin, David	
Russell, Keith P.	
Samson, Paul C.	
Thurber, Packard, Jr.	
Wood, David A.	

EX-OFFICIO PAST PRESIDENTS (22)

Ewer, Edward N.	1925
Harris, Junius B.	1931
Peers, Robert A.	1935
Wilson, Harry H.	1940
Molony, William R., Sr.	1942
Schaupp, Karl L., Sr.	1943
Goin, Lowell S.	1944
Cline, John W.	1947
Askey, E. Vincent	1948
Kneeshaw, R. Stanley	1949
Cass, Donald	1950
MacLean, H. Gordon	1951
Green, John W.	1953
Morrison, Arlo A.	1954
Shipman, Sidney J.	1955
Charnock, Donald A.	1956
MacDonald, Frank A.	1957
West, Francis E.	1958
Reynolds, T. Eric	1959
Foster, Paul D.	1960
Bostick, Warren L.	1961
Wheeler, Omer W.	1962

EX-OFFICIO HONORARY PAST PRESIDENT (1)

Murray, Dwight H.

House of Delegates Agenda

1964 Annual Session

Biltmore Bowl
Biltmore Hotel

Speaker.............................William F. Quinn, Los Angeles
Vice-Speaker...........................Ivan C. Heron, San Francisco
Secretary.........................Matthew N. Hosmer, San Francisco

FIRST MEETING

Saturday, March 21, at 7:00 p.m.

ORDER OF BUSINESS

1. Call to order.
2. Report of Committee on Credentials, and Organization of the House of Delegates.
3. Roll call.
4. Announcement and approval of Reference Committees.
    (a) Committee on Credentials. (Delegates must register with the Committee.)
    (b) Reference Committee on the Reports of Officers, the Council, the Commissions and Standing and Special Committees. (Reference Committee No. 1.)
    (c) Reference Committee on Finance, to review the reports of the Secretary and the Executive Secretary and to study and make recommendations to the House of Delegates on the budget submitted by the Council and the amount of dues for the ensuing year. (Reference Committee No. 2.)
    (d) Reference Committee on Resolutions and New and Miscellaneous Business. (Reference Committee No. 3.)
    (e) Reference Committee (No. 3A) on Resolutions and New and Miscellaneous Business.
    (f) Reference Committee on Amendments to the Constitution and By-Laws. (Reference Committee No. 4.)
    (g) Reference Committee on C.P.S. Business.
5. Address by President of the Woman's Auxiliary to the C.M.A. Mrs. Homer R. Wolfsen.
6. Address by President—Presentation of 50-Year Awards.
7. Miscellaneous announcements by the Speaker. (Stenographic service to secure copies of resolutions, etc.)
8. Report of the President—Samuel R. Sherman.
9. Report of the President-elect—James C. Doyle.
10. Report of the Speaker of the House of Delegates—William F. Quinn.
11. Report of the Vice-Speaker of the House of Delegates—Ivan C. Heron.
12. Report of the Trustees of the California Medical Association—Samuel R. Sherman.
13. Report of Physicians' Benevolence Fund, Inc.—Samuel R. Sherman.
14. Report of the Secretary—Matthew N. Hosmer.
15. Report of the Editor—Dwight L. Wilbur.
16. Report of the Executive Secretary—John Hunton.
17. Report of Legal Counsel—Peart, Baraty and Hassard.
18. Report of the Committee for Emergency Action—Samuel R. Sherman.
19. Report of the Council—Carl E. Anderson, Chairman.
20. Report of C.P.S. Board of Trustees—Paul I. Hoagland, Chairman, Board of Trustees.
21. Report of ad hoc Committee of 1963 House of Delegates—Llewellyn E. Wilson, Anaheim.
22. Reports of Commissions.
    (a) Commission on Community Health Services—Harold Kay, Oakland.
    (b) Commission on Medical Services—John F. Murray, Fresno.
    (c) Commission on Professional Welfare—George K. Herzog, San Francisco.
    (d) Commission on Public Agencies — James C. MacLaggan, San Diego.
    (e) Judicial Commission — Donald A. Charnock, Los Angeles.
    (f) Scientific Board—Edward B. Shaw, San Francisco.
23. Reports of Other Committees.
    (a) Bureau of Research and Planning — Gerald W. Shaw, Santa Monica.
    (b) Bureau on Communications — Warren L. Bostick, San Rafael.
    (c) Committee on Legislation—Dan O. Kilroy, Sacramento.
    (d) Finance Committee—Burt L. Davis, Palo Alto.
    (e) Medical Executives Conference—William T. Nute, San Diego.
    (f) Delegates to the A.M.A. — J. Lafe Ludwig, Los Angeles.
    (g) Liaison Committee to C.P.S. — Donald D. Lum, Alameda.
    (h) Liaison Committee to the State Bar of California—Francis E. West, San Diego.
    (i) Liaison Committee to the California Hospital Association—James C. MacLaggan, San Diego.
24. Old and Unfinished Business.
25. New Business.

SECOND MEETING

Tuesday, March 24, at 4:00 p.m.

(to be recessed and reconvened at 9:00 a.m. Wednesday, March 25)

ORDER OF BUSINESS

1. Call to order.
2. Supplemental report of Credentials Committee.
3. Roll call.
4. Secretary's announcement of Council's selection of time and place for the 1965 annual session.
5. Election of officers:
    - (a) President-elect.
    - (b) Speaker.
    - (c) Vice-Speaker.
    - (d) Councilors (three-year terms).
        - (1) First District — James C. MacLaggan, San Diego (term expiring).
          First District—San Diego County.
        - (2) Second District—Llewellyn E. Wilson, Anaheim (term expiring).
          Second District — Imperial, Inyo, Mono, Orange, Riverside, San Bernardino Counties.
        - (3) Third District — Office No. 3—J. Norman O'Neill, Los Angeles (term expiring).
        - (4) Third District — Office No. 6—Franklin F. Ham, Van Nuys (term expiring).
          Third District—Los Angeles County.
        - (5) Fourth District — James W. Dalton, Santa Barbara (term expiring).
          Fourth District—San Luis Obispo, Santa Barbara and Ventura Counties.
        - (6) Sixth District—Office No. 1—Burt L. Davis, Palo Alto (term expiring).
          Sixth District—Monterey, San Benito, San Mateo, Santa Clara and Santa Cruz Counties.
        - (7) Seventh District — Office No. 1 — Donald M. Campbell, San Francisco (term expiring).
          Seventh District—San Francisco County.
        - (8) Eighth District — Office No. 2 — William F. Kaiser, Berkeley (term expiring).
          Eighth District—Alameda and Contra Costa Counties.
        - (9) Ninth District—Carl E. Anderson, Santa Rosa (term expiring).
          Ninth District—Del Norte, Humboldt, Lake, Marin, Mendocino, Napa, Solano and Sonoma Counties.
        - (10) Eleventh District — Office No. 1 — Forest J. Grunigen, Los Angeles (term expiring).
          Eleventh District—Statewide.
    - (e) Delegates to the American Medical Association: Delegates and Alternates to the American Medical Association are elected for terms of two calendar years. The Delegates and Alternates to be elected at this meeting will serve for two calendar years starting January 1, 1965, except as otherwise noted.

      INCUMBENTS:
        - (1) Leopold H. Fraser, Richmond (term expiring).
        - (2) Arthur A. Kirchner, Los Angeles (term expiring).
        - (3) Dwight L. Wilbur, San Francisco (resigned).
        - (4) J. Norman O'Neill, Los Angeles (term expiring).
        - (5) J. Lafe Ludwig, Los Angeles (term expiring).
        - (6) Burt L. Davis, Palo Alto (term expiring).
        - (7) Arlo A. Morrison, Ventura (term expiring).
        - (8) James E. Feldmayer, Exeter (term expiring).
        - (9) Omer W. Wheeler, Riverside (term expiring).
        - (10) Malcolm C. Todd, Long Beach (term expiring).
        - (11) J. E. Vaughan, Bakersfield (term expiring).
    - (f) Alternates to the American Medical Association: All terms expiring. All offices for two-year terms starting January 1, 1965.

      INCUMBENTS:
        - (1) Hartzell H. Ray, San Mateo (alternate to Leopold H. Fraser).
        - (2) Dudley M. Cobb, Los Angeles (alternate to Arthur A. Kirchner).
        - (3) Francis J. Cox, San Francisco (alternate to Dwight L. Wilbur).
        - (4) William F. Quinn, Los Angeles (alternate to J. Norman O'Neill).
        - (5) Harold Kay, Oakland (alternate to J. Lafe Ludwig).
        - (6) Leon P. Fox, San Jose (alternate to Burt L. Davis).
        - (7) John G. Morrison, San Leandro (alternate to Arlo A. Morrison).
        - (8) Charles Grayson, Sacramento (alternate to James E. Feldmayer).
        - (9) Wilbur Bailey, Los Angeles (alternate to Omer W. Wheeler).
        - (10) Alfred J. Murietta, Jr., Los Angeles (alternate to Malcolm C. Todd).
        - (11) Joseph P. O'Connor, Pasadena (alternate to J. E. Vaughan).
6. Election of C.P.S. Trustees (three-year terms):

   Report of C.M.A. Council as Nominating Committee.

   Incumbents, terms expiring (all eligible for reelection):

   Mr. John Cowee, Berkeley.

   Mr. Thomas Hadfield, San Francisco.

   Donald C. Harrington, Stockton.

   Milo A. Youel, San Diego.

   Paul Schrade, Milpitas (appointed for expiring term of Arnold Callan, resigned).

7. Announcement by Secretary.
   Council's nominations of members of Commissions and Committees (for approval by the House of Delegates).
8. Reports of Reference Committees:
   - (a) Reports of Reference Committee No. 1 on Reports of Officers, the Council, Commissions and Standing anl Special Committees.
   - (b) Report of Reference Committee No. 2 on Reports of the Secretary, the Executive Secretary, and the budget and dues.
   - (c) Report of Reference Committee No. 3 on Resolutions and New and Miscellaneous Business.
   - (d) Report of Reference Committee No. 3A on Resolutions and New and Miscellaneous Business.
   - (e) Report of Reference Committee No. 4 on Amendments to the Constitution and By-Laws.
   - (f) Report of Reference Committee on C.P.S. Business.
9. Unfinished Business.
10. New Business.
11. Presentation of Officers:
    President.
    President-elect.
    Speaker.
    Vice-Speaker.
12. Presentation of certificate to retiring president Samuel R. Sherman.
13. Approval of minutes. (Committee to edit.)
14. Adjournment.

William F. Quinn, *Speaker*
Matthew N. Hosmer, *Secretary*

PROPOSED AMENDMENTS TO CONSTITUTION

Amendments to the Constitution of the California Medical Association are required to lie on the table for one year before being voted upon. Five proposed amendments to the Constitution were introduced in the 1963 House of Delegates. Under the terms of the Constitution, these were subject to review by the Reference Committee in the 1963 House of Delegates and will also be reviewed by Reference Committee No. 4 in the 1964 House before being voted upon in that session.

The following five Amendments to the Constitution were offered in 1963, all of them placed on the table for definitive action in 1964. (The new wording is in italics.)

* * *

CONSTITUTIONAL AMENDMENT No. 1-63

Subject: Direct Election of All District Councilors
Article III, Part B, Section 11

Author: John W. H. Sleeter

Representing: Los Angeles County

Resolved: That the Constitution of the C.M.A., Article III, Part B, Section 11, be amended to read as follows:

"Section 11—Election of Councilors

"District councilors shall be elected by the vote of the members, entitled to vote, from each district, in the manner and at the time specified in the bylaws."

and be it further

Resolved: That the bylaws of the C.M.A. be amended to provide for the election of district councilors in accordance with this Constitutional amendment.

CONSTITUTIONAL AMENDMENT No. 2-63

Subject: Permit Councilor District Number Three to Define Sub-councilor Districts
Article III, Part B, Section 10

Author: Walter H. Brignoli

Representing: Reference Committee No. 4

Resolved: That Article III, Part B, Section 10 of the Constitution of the California Medical Association be amended to provide that:

"District Number Three, comprising the County of Los Angeles *may define the geographic or other limits of the sub-councilor districts within the county, provided their bylaws specify that delegates and alternates shall be elected from the same sub-councilor districts.*"

* * *

CONSTITUTIONAL AMENDMENT No. 3-63

Subject: Direct Election of Councilors in Districts Wholly Contained within Boundaries of One Component Medical Society
Article III, Part B, Section 11

Author: Joseph P. O'Connor

Representing: Los Angeles County

Resolved: That Article III, Part B, Section 11—Election of Councilors, be amended to read hereafter as follows:

"District councilors shall be elected by vote of the delegates from each district, in the manner and at the time specified in the bylaws; provided, however, *that in those councilor districts wholly contained within the boundaries of one Component Medical Society, district councilors may be elected by the vote of the members entitled to vote from such councilor or sub-councilor district, if the district be divided, in the manner and at the time specified in the bylaws; subject, however,* that at the first meeting of the House of Delegates, after a district councilor has been *elected,* his name shall be submitted to the House, by the delegates from the district and (1) if there is no challenge by any delegate, then the speaker shall declare his election completed, and (2) if any delegate shall challenge the election on any ground, including fitness of the councilor to serve as a district councilor, the questions presented by the challenge, shall be submitted to a Qualifications Committee, consisting of the president, president-elect, and one delegate appointed by the speaker, from the councilor district or *sub-district* involved. The Qualifications Committee shall consider all grounds upon which the *councilor* is challenged, and report back to the House. If the committee reports in favor of confirming the *councilor's* election, the speaker shall declare him elected. If the committee reports against confirming the *councilor's* election, a three-fourths affirmative vote shall be necessary to sustain the report of the committee, in which event, the *councilor* shall be ineligible to serve as *a* district councilor, and the delegates *or members* from the district *or sub-district* shall immediately proceed to the *election* of another *councilor* for the vacant office. If an adverse report of the Qualifications Committee is not sustained, then the *councilor* shall be declared elected by the speaker."

* * *

CONSTITUTIONAL AMENDMENT No. 4-63

Subject: Permit District Number Three to Subdivide into the Same Number of Sub-councilor Districts as There Are Councilors and Elect Sub-councilors by the Membership
Article III, Part B, Section 10

Author: Joseph P. O'Connor

Representing: Los Angeles County

Resolved: That Article III, Part B, Section 10 of the California Medical Association Constitution, wherein it refers to District Number Three, be amended to read hereafter as follows:

"District Number Three, comprising the County of Los Angeles. *The members of District Number Three may, by a vote of the members entitled to vote, elect to divide District Number Three into the same number of sub-councilor districts as there are councilors. If the district is so divided, a councilor shall be elected by and represent the members of each sub-councilor district.*

* * *

CONSTITUTIONAL AMENDMENT No. 5-63

Subject: Permit Direct Election of Councilors in Councilor Districts Wholly Contained within the Boundaries of One Component Medical Society
Article III, Part B, Section 11

Author: Joseph P. O'Connor

Representing: Los Angeles County

Resolved: That Article III, Part B, Section 11—Election of Councilors—be amended to hereafter read as follows:

"District councilors shall be elected by vote of the delegates, from each district, in the manner and at the time specified in the bylaws; provided, however, *that in those councilor districts wholly contained within the boundaries of one Component Medical Society, district councilors may be elected by the vote of the members entitled to vote from such councilor or sub-councilor district, if the district be divided. At the first meeting of the House of Delegates, after a district councilor has been elected, his name shall be submitted to the House by the Delegates from the district or sub-district, and the speaker shall declare his election completed.*

AMPAC REPORTS

All physicians, wives and friends are invited
to attend the meeting of The California Volunteers
for the American Medical Political Action Committee

MONDAY, MARCH 23 • 3:00 P.M.

GALERIA ROOM • BILTMORE HOTEL

ANNUAL REPORTS FOR 1963

FOREWORD

Presented below are the official reports of the governing bodies of the California Medical Association. These cover, for the most part, the calendar year 1963 and may be supplemented by additional reports to be made before the House of Delegates to cover activities occurring in the early part of 1964.

These reports will be reproduced in the *Annual Reports Bulletin* which will be distributed to all members of the House of Delegates in advance of the 1964 meeting of that body. This bulletin will also contain a number of reports from commissions, bureaus and committees of the Association, which as a body will portray the entire picture of C.M.A. activities during the year. Copies of this bulletin will be available to individual members requesting them following the Annual Session.

This procedure has been adopted as a means of informing the entire membership of the overall activities of the Association, of providing members of the House of Delegates with detailed reports on a number of areas of interest and of allowing the many commissions, bureaus and committees to bring their reports more up-to-date for the consideration of the House of Delegates.

REPORT OF

The Council

To The President and the House of Delegates:

The Council of the California Medical Association serves in the dual capacity of overseeing the entire Association operation and of determining policy in periods between the annual meetings of the House of Delegates. Inasmuch as the House meets only for a few days each year, the Council is called upon frequently to set policy on questions of interest to the entire membership.

Composition of the Council includes the elected general officers of the C.M.A., district Councilors from all districts of the state in proportion to membership in the district and, *ex-officio*, the appointed Secretary, the appointed Editor and an elected representative of the Scientific Board. This makeup provides a geographical, numerical and scientific representation and makes for a body representing the entire C.M.A. membership.

While matters of new business call for policy determination, continuing Association programs must be guided, reviewed and, where needed, encouraged. This means a large housekeeping task for the Council and requires that all members be aware at all times of the many activities of the various commissions and committees maintained to keep abreast of, and participate in, the numerous fields where the medical profession has a part and/or an interest.

The Council receives reports regularly from the several commissions and their committees and takes indicated action on many matters in these reports which may warrant official approval or disapproval.

Minutes of each Council meeting are published in California Medicine for the information of all members. Details lacking in these minutes may be obtained through the headquarters office.

During 1963 the Council held ten regularly scheduled meetings and made plans for three additional meetings in 1964 prior to the Annual Session. Each meeting occupied a full day or longer and each was reported in official minutes in the Journal. In addition, a digest known as "Hi-Lites" is sent immediately following each meeting, to all Council members, component society officers and bulletin editors so that they may have a prompt report on the major actions taken at each meeting.

Among the major matters coming before the Council in 1963 are the following:

1. *Nursing Homes.* The Council has continued its active support of the California Commission for the Accreditation of Nursing Homes and Related Facilities. This organization, comprising the statewide organizations representing medicine, hospitals, nursing and nursing homes was established for the purpose of providing an inspection and accreditation program for nursing homes in all parts of the state.

During 1963 a total of 37 nursing homes qualified for certification by this commission. Fees are paid by each nursing home that requests inspection and certification. The establishment of the commission and its facilities has required sizable funds which have been borrowed by the Commission and guaranteed as to payment by the C.M.A., the California Hospital Association and other interested organizations. To date the C.M.A. has guaranteed $46,000 of these loans. California has pioneered the program of a state certifying agency for nursing homes and the Council is giving all possible support to the commission in its effort to do a thorough and complete job statewide.

2. *Fees paid by State of California.* The Council has kept in close touch with the State of California Department of Finance, to which the Governor and the Legislature have assigned the study and determination of the level of medical fees to be paid by the several departments of state government which provide medical care services to their wards. These services are particularly broad in welfare categories in MAA and the Crippled Children's Services, among others.

The Council created and assigned to its Liaison Committee to the State Department of Finance the duty of meeting with Department of Finance officials in their effort to establish uniform medical fees for the services which are provided under the various state-financed programs. Toward the close of the year the Department of Finance recognized the 1960 C.M.A. Relative Value Studies as a format for establishing state fee schedules. This decision has resulted in a more satisfactory allocation of fees for physicians treating patients whose medical care is paid for by the State.

3. *Mental Health.* During 1963 the State Department of Mental Hygiene and the Senate Committee on Business and Professions, through Senate Resolution No. 131, requested the Association "to undertake a comprehensive survey of state mental institutions, including the care of patients, quality and adequacy of personnel and adequacy of facilities." The Council accepted this request and designated the Committee on Mental Health as the responsible group. Five state hospitals were immediately inspected; a report was made promptly for the benefit of the Department of Mental Hygiene and the Legislature and agreement was reached on the same inspection-and-report procedure for all remaining hospitals, institutes and treatment centers maintained by the state for the mentally ill. These inspections are proceeding at this time and will be completed during 1964.

At the outset of this inspection program the Council assumed the cost of incurred expenses. For the inspections yet to be made, the Department of Mental Hygiene has agreed to meet a large portion of the anticipated expense.

4. *Component Societies Officers' Conference.* The annual conference of component societies' officers is planned again for February, 1964. This timing recognizes the annual elections held in the component societies and offers an opportunity for all new officers to receive reports on C.M.A. activities, to meet their fellow colleagues from other counties and to offer suggestions for future programs. The Council believes thoroughly that such conferences are of great value to all and intends to continue them. Subject matter of these conferences must necessarily change from year to year and every effort is made to keep these programs up to date and in keeping with various developments affecting the profession and its practices. In turn, the component societies have been unanimously in support of these meetings, as evidenced by their active participation.

5. *Medical Education.* During the past year the Council has maintained its active interest in the California College of Medicine and its financial and other needs. Financial support of the school was a part of the agreement for unification of the medical and osteopathic professions in California and the Council has remained aware of the school's needs. In furtherance of this obligation the Council has directed that an enlarged portion of the medical education funds included in the annual budget be earmarked for the support of the college. It has also been active in creation of an advisory planning committee to the college and in formation of a financial planning committee. In addition, reserve funds have been provided in the annual budget, to be used in the event cash contributions are required.

California College of Medicine is seeking a dean at this time and the Council is most interested to see that this office is filled in a distinctive manner. The alumni association of the school has been revitalized and there is every expectation that a strong and well equipped, well staffed, school of medicine will emerge as a credit to the medical educational facilities of the state.

California's contribution to the American Medical Association Education & Research Foundation in 1963 amounted to a little more than $200,000. These funds come from the dues of all members and are a tremendous help to this volunteer activity. All medical schools in the country share in these funds, with the bulk of California's contribution going to medical schools in the state which are not primarily tax-supported.

6. *Keogh Retirement Plan.* Early in 1963 the Council approved the establishment of a members' retirement program under C.M.A. auspices. Such a program was not envisioned as competing with other programs organized on state, sectional or national lines but, rather, as creating a plan which would be available to those members who wanted to establish a program and who might have no other resources available to them.

Through a committee of expert advisors created by the Medical Executives Conference and approved by the Council, a program was devised, to offer participants a choice between insurance annuities and two investment funds. Participants have their own choice as to which portions of the plan they wish to embrace and as to what percentage of their retirement funds they wish to place in one or another of the alternative parts of the total fund. Wells Fargo Bank has been selected as the corporate trustee for the program. The federal Securities & Exchange Commission advised the plan was not required to register under it rules. A rather high percentage of the membership expressed interest in receiving details on this program and a limited number of participants have already completed their applications and made contributions for calendar 1963. It is anticipated that participation in this plan will grow during the next few years.

7. *Legislative.* During 1963 a regular session of the State Legislature was held and the Association was, as before, most ably represented by its own Committee on Legislation and by the Public Health League of California. A number of proposed measures with a bearing on the practice of medicine or public health came before the session and the Council was asked to determine policy positions to be taken on many subjects. At the close of the session recapitulation showed that many measures favored by the C.M.A. had been adopted and few to which the Association had voted opposition became law.

Under existing legislative procedure in Sacramento, many measures are referred to interim committees of the Assembly or the Senate for review and consideration during the two years before the next regular session of the Legislature. The Public Health League and the Committee on Legislation are again following all such measures, including two which were originated by the Association, both aimed at providing that medical care fees to be paid by the state should be no less than those customarily paid by citizens who meet their own medical care expenses. The passage of these measures would go a long way toward eliminating much opposition to state programs which allow admittedly inadequate fees.

8. *Communications.* The Council has again supported a broad program of communications. Funds have been provided in annual budgets to further educational campaigns directed at both the public and the profession itself. The Bureau on Communications has a membership which includes several officers and Councilors and its activities come regularly before the Council for review.

During the past year the bureau has continued its basic programs for assisting physicians in meeting their patients and has given assistance to various commissions and committees in seeking public recognition of their accomplishments. One recent example was in the proposal of the Committee on the Medical Aspects of Sports Injuries that the referee's count of a floored boxer be continued even after the bell ending the round. This proposal has now been adopted by the State Athletic Commision as standard practice.

The bureau has also undertaken several other duties under Council direction. Among these have been the arrangements for Doctor Edward Annis, A.M.A. president, on his several visits to California, the promotion in all Congressional districts of the "Operation Hometown" program of the A.M.A. and the initial promotion of the A.M.A.'s program on medicine and religion.

9. *Medical Care of the Aging.* The Council has maintained an avid interest in the provision of medical services for the population of age 65 or more. This is the segment of the national population which federal proposals would seek to serve with hospital, nursing home and some medical services under the auspices of the Social Security System. In the past the Council has applauded an offering of prepaid medical care service for this age group by California Physicians' Service. The original CPS contracts have been in existence for several years and the loss ratio under them is rapidly approaching the accumulative level of 90 per cent of income received. The C.M.A. has guaranteed the payment of claims which exceed 90 per cent. Under this guarantee the Association may be called upon for payments within the next year. This is one more item for which a modest reserve fund has been established in the current budget.

Toward the close of 1963 a group of commercial insurance carriers made a joint offering of health insurance coverage for the 65-and-over group under a pooled fund. This operation has been authorized by state insurance authorities and its reception by the senior citizen group is being watched with a great deal of interest. The Council, as usual, approves the availability of insurance coverage for this group of the aging under private auspices and decries the King-Anderson type of federal legislation which would place this entire age group under federal authority.

10. *Physician-Hospital Relationships.* The Council has been most happy to witness the further development of the program of fostering better physican-hospital relationships. The "Guiding Principles" developed by the C.M.A. to aid in a better relationship have already been adopted by a number of hospitals in all parts of the state and at year-end some 140 hospitals had been surveyed or had signified their desire to be surveyed. With this demand it is possible the Council will find it necessary to add to the staff to handle this program.

11. *Polio Campaigns.* Campaigns sponsored by component societies throughout the state resulted early this year in the inoculation of more than 10 million California residents against poliomyelitis. This is undoubtedly the largest campaign of mass prevention the state has ever seen and the statistics on the incidence of polio following these group inoculations bear out the efficacy of the programs. The Council took no direct part in these county and area wide campaigns but did approve the actions of one of the standing commissions in fostering and aiding the guidance of these drives. Fortunately, funds received from public contributions of a modest 25 cents per person were sufficient to cover the direct costs of the campaigns and to leave a surplus after payment of all bills. All personnel involved donated their services. The Council later approved a set of regulations under which all surplus funds were earmarked for charitable and public health purposes.

12. *Resolutions of 1963 House of Delegates.* The 1963 House of Delegates referred several resolutions directly to the Council for consideration and for such action as the Council deemed advisable. In addition, a number of resolutions were adopted by the House and, in effect, turned over to the Council for implementation. These were assigned by the Council to various commissions and committees, which will make their own reports on the progress of implementation.

Among the items referred directly to the Council were the following:

No. 1.—This urged a stricter control over licensed physicians by providing that the absence of high standards, education or skill be considered causes for revocation of licensure by the Board of Medical Examiners if county and C.M.A. disciplinary procedures have been followed. To promote this concept the Council has established a liaison committee with the Board of Medical Examiners and is currently pursuing the several aspects of legality or advisability of making ethical, as well as legal, breaches the subject of license revocation.

No. 4.—Efforts by C.M.A. to work for C.P.S. or other insurance coverage for partially disabled persons was asked in this resolution as a means of making such persons employable. This subject has been assigned by the Governor of California to a special committee appointed by him to look into all phases of workmen's compensation.

No. 12—This resolution asked for a definitive finding on the drug Percodan as to its classification for prescription only on a narcotics prescription form. This question was resolved for the present by the State Legislature, which voted not to place Percodan on the triplicate form.

No. 35.—Similar to No. 1, above. Liaison with State Board of Medical Examiners already established.

No. 54.—This resolution asked C.M.A. assistance for overseas medical missions and the physicians serving them. The Council has appointed an ad hoc committee to study this proposal in depth.

No. 65.-No. 68.—These resolutions asked official recognition of a plan for individual responsibility by physicians and patients. In furtherance of the aims of the resolutions the Council ordered publication in CALIFORNIA MEDICINE of a minority study committee report by the author of the resolutions; this report covered in detail the proposals in the resolutions and thus made them available to all members.

No. 70.—This resolution requested that C.M.A. endorse and actively support specified changes in the MAA program in California. The Council requested the Legislature to enact the changes requested in this resolution and actively worked for the inclusion of these changes in the legislative bills introduced.

No. 94—This asked for a study of the extension of professional courtesy, especially by some physicians whose services are in great demand by other members of the profession. The Council asked the Judicial Commission to study this question and the commission has already met to prepare a definite procedure to be recommended for general use by all physicians.

The above comments represent only a part of the major items with which the Council has been concerned in 1963. A review of the minutes of Council meetings as published in CALIFORNIA MEDICINE will fill in many details which for space reasons are not brought out here.

In conclusion, the thanks of the California Medical Association are due to the members of the Council who serve so willingly and whole-heartedly in conducting the affairs of your Association. Our thanks also to the many commission and committee members who lend their time and their talents to the many activities in which the C.M.A. is concerned and interested.

Finally, we owe a tremendous debt of gratitude to our elected and appointed officers, all of whom have constantly been ready and willing to make any sacrifices in order to carry out the programs and policies approved by the House of Delegates and the Council. In this process we must also express our deepest thanks to our loyal staff, without whose dedication and ever-present efforts we could not function in such capable and effective fashion.

Respectfully submitted,
CARL E. ANDERSON, *Chairman*

REPORT OF THE

Committee for Emergency Action

To The House of Delegates:

The Committee for Emergency Action is made up of the President, President-Elect, Speaker and Council Chairman of the Association. Its function is to serve between meetings of the Council in matters where prompt action is necessary or where the Council determines that a small group make a special study of some item of business. The committee's actions are reported to the Council, which has final authority to approve committee actions and recommendations.

During the past year the committee has met on various occasions, has acted as liaison with governmental agencies or other organizations and has carried out the obligations placed upon it by the Council. It is believed that such a compact committee can move expeditiously and effectively in areas where the larger Council membership might not be appropriate.

Respectfully submitted,
Samuel R. Sherman, *Chairman*

REPORT OF THE

Delegates to A.M.A.

To The President and The House of Delegates:

It is my pleasure to report to you that your elected representatives to the A.M.A. carried out their duties, most successfully I believe, as assigned by this House. The California delegation supported all resolutions in the A.M.A. which were designed to strengthen the country and in California in particular.

The A.M.A. House of Delegates is considerably smaller than our own House but its work is involved with many subjects of utmost importance to all physicians and to the public. Your Delegates and Alternates have entered into this work in whole-hearted manner and have carried out their obligations consistently.

The growing size of our delegation, totaling 42 men at this time, has required that the delegation organize into committees for the consideration of the various activities with which the delegation must be concerned. Accordingly, at the December meeting in Portland, committees were appointed on Rules, Resolutions, Candidate Selection, Hospitality and Acey-Deucies, under the chairmanships, respectively, of Arlo Morrison, Eugene Hoffman, Ralph Teall, Charles Hudson and J. B. Price. The Acey-Deucies, incidentally, are members of an organization of A.M.A. delegates from states sending only one or two delegates to the meetings.

It is the custom of our delegation to caucus at least once each day during the meetings. These committees will make their reports during these sessions and you may be sure that the delegation will profit by the intensive consideration the committee members will be able to concentrate on specific areas of interest.

The delegation will welcome any suggestions or advice from the House of Delegates, the Council or members who have an interest in the business coming before the A.M.A.

Respectfully submitted,
J. Lafe Ludwig, *Chairman*

REPORT OF

Physicians' Benevolence Fund, Inc.

To The House of Delegates:

Physicians' Benevolence Fund, Inc., was established several years ago as a corporate successor to the former Physicians' Benevolence Fund carried as a part of the organization and financial structure of the California Medical Association.

The corporation operates through the office of the C.M.A. and its officers are elected and its committees appointed by the Council. The fund serves to meet the immediate needs of physicians and their families in time of financial distress and emergency. It does not act as an insurance company or an annuity fund but is designed to come to the temporary aid of physicians and their families in financial straits due to death, illness, accident and other unforeseen causes.

During the past year this fund has continued to give financial assistance in various instances brought to its attention by component societies, Woman's Auxiliary chapters and others. The financial support of the fund comes from the allocation of $1 from the annual dues of each C.M.A. member, contributions from the Women's Auxiliary to C.M.A. and other contributions made by individuals, often in the memory of deceased family members or friends.

The financial reports of the fund are found on another page of this issue. They indicate that the fund had an excess of $11,258 of income over expenditures in the fiscal year ended June 30, 1963, and that as of the report date it had cash of $27,517, government bonds of $44,000 and a secured outstanding loan of $42,000 to Los Angeles County Physicians Aid Association. U.S. Treasury short-term bills with a market value of $39,703 were also held as of last June 30 for maturity in August and September 1963. There were no current or long-term liabilities as of the report date.

I believe I speak for the entire Council in expressing pride and satisfaction in the knowledge that we have such a fund available to provide immediate financial assistance to needy physicians and their families. In this way the medical profession looks after the needs of its fellow physicians in a humanitarian manner.

Our thanks go to Doctors Ford P. Cady, chairman, and Elizabeth Mason-Hohl, Don Musser, Alexander Fraser, Clyde L. Boice and George G. Wolf, members of the operating committee which determines the amount and extent of aid given by the fund. Our thanks also go to our Women's Auxiliary for its continued important contributions and its service from individual members in locating and interviewing needy physicians and their families in behalf of the fund.

Respectfully submitted,
Samuel R. Sherman, *President*

REPORT OF THE

Finance Committee

To The President and The House of Delegates:

The Finance Committee is a special committee of the Council which is given the responsibility of preparing an annual budget, recommending the level of annual dues and reviewing all financial transactions of the C.M.A. Its five members have been diligent in attending all committee meetings and in giving prompt attention to all demands made upon the committee during the past year.

The C.M.A. annually spends close to $1.5 million and handles close to another $1 million in A.M.A. dues received from component societies and forwarded with membership reports to A.M.A. The very size of this business indicates the need for close supervision of the financial side of the Association's business. The Finance Committee does its best to meet this need and to offer such help as may be indicated in assuring a smooth and orderly conduct of business.

Under Council operating rules any appropriation of funds in excess of $1,000 beyond the approved budget must be referred to the Finance Committee for study and report before the Council takes its own vote (three-fourths majority required) on the requested funds. This requirement calls for Finance Committee meetings during some Council meetings and it is believed that such meetings are a valuable tool of the Council's in its effort to make the dues and other dollars of the Association work efficiently.

During the past year this committee has been operating with the complete attention and care of it members and has given thorough review of all financial aspects of the Association.

The financial reports of the California Medical Association and its affiliated organizations are printed elsewhere in this issue and warrant the review of all members. The C.M.A. has consistently followed a policy of printing its financial results in full and it is hoped the members find this publication informative and useful.

The Finance Committee has also prepared a proposed budget for the 1964-65 fiscal year. This will come before the House of Delegates for consideration and approval at the Annual Session.

In behalf of Doctors J. Norman O'Neill, James W. Dalton, John F. Murray and Donald M. Campbell, members of the committee, it is my pleasure to make this report on a year of active financial housekeeping for your Association and your funds.

Respectfully submitted,
Burt L. Davis, *Chairman*

REPORT OF THE
Executive Secretary

To The President and the House of Delegates:

This report will again represent a report by the entire staff of the Association, condensed in order to bring out the principal items of activity during the past year without entering into too many details. And again, as in past years, it will be divided into a series of main topics which cover the entire area of responsibility and administration during the 1963 calendar year.

1. *General.* The Association continues to operate from its headquarters building in San Francisco and to call upon this facility to furnish quarters for an ever-enlarging list of functions and activities. When the C.M.A. moved into this building in late 1959 it proposed to use an initial 40 per cent of the total building space. In the four intervening years new functions and new programs have been undertaken, new personnel employed and new demands made for office space. The result is that today the Association is using 75 per cent of the floor area at 693 Sutter St., San Francisco, and is currently in process of taking over more space from tenants who were accepted for space rentals during the period of growth in C.M.A. demands.

The Association continued its upward membership trend in the past year and the membership figures show no signs of abating. As has been stated in earlier reports, a growing membership brings with it a growing wealth of ideas and projects, all of which indicate that the C.M.A. will continue to grow in size, personnel and activities. Fortunately, with an organization the size of the present staff, additional duties may be undertaken without proportionate additional staff.

2. *Personnel.* At the close of 1963 the Association's payroll listed 57 employees, four more than a year earlier. The total includes 20 listed as administrative or executive and 37 shown as "clerical," this group including all secretarial employees. In the administrative group, one man is on a part-time basis and another on part time for the California Medical Education & Research Foundation. In the "clerical" group, two employees are on a part-time basis and two are employed by Trustees of the C.M.A. as janitors in the headquarters building.

The increase in staff during the past year has taken place only as new projects were ordered by the governing bodies of the Association. Such increases will doubtless continue in future months and a normal increase in the strictly administrative staff must be anticipated as a result of membership growth.

During 1963 one member of the "executive" staff resigned to enter public health work. This was Doctor Walter E. Batchelder, whose duties have been assigned in part to Doctor Eugene Miller, now associated with C.M.A. on a full-time basis. It is anticipated that another staff member will be recruited to take over other duties previously handled by Doctor Batchelder and to backstop the added duties resulting from formal inauguration of the Scientific Board.

Also during 1963 another staff member received a signal tribute when R. G. (Jerry) Bowman, assistant to the executive secretary, was elected President of the San Francisco Junior Chamber of Commerce. Staff policy encourages members to participate in community endeavors and the Association may well feel honored in this selection by an important civic organization.

3. *Financial.* The annual financial reports of the Association and its affiliated corporations, covering the fiscal year ended June 30, 1963, are printed on another page of this issue, as prepared by John F. Forbes and Company, certified public accountants. Their study by interested members is recommended.

These reports show that the California Medical Association ended the fiscal year with a net loss of $52,832, compared with a net gain of $25,509 the preceding year. The 1963 loss is reported after having made allowance for $240,733 spent during the fiscal year in attaining passage of Proposition No. 22 on the November, 1962, election ballot. This, as members will remember, was the proposition creating total legal recognition of the amalgamation of the California Medical Association and the California Osteopathic Association.

The 1963 report shows dues income for the year at $1,368,272, an increase of 11.2 per cent from the preceding year's $1,230,568. This increase came in largely from dues paid by the more than 1,800 new members accepted from the former California Osteopathic Association.

Administrative expenses for the 1963 fiscal year totaled $413,885, up 0.7 per cent from the preceding year's $410,916. Expenses for all scientific, educational and communications activities came to $1,061,350, or 19 per cent more than was expended in the earlier year. This total again contains the sum spent on Proposition 22, in the absence of which these total expenses would have been slightly lower than in the 1961-1962 fiscal year.

Publication of California Medicine brought in $205,867 of advertising income, 11.7 per cent higher than in the preceding year, and a net income after all charges of $41,708, compared with $18,558 a year earlier. Publication costs rose 2 per cent for the year to a total of $231,350.

The corporation, Trustees of the California Medical Association, completed the fiscal year with a balance of $29,338 of income above expenses. Of this balance, $14,412 was recorded as net income on the headquarters building, for which separate accounts are maintained.

For the 1964-1965 fiscal year the staff has worked with the Finance Committee of the Council in preparing a budget designed to provide for all authorized and anticipated activities without recourse to an advanced dues level.

(Continued on Page 65)

CALIFORNIA MEDICAL ASSOCIATION

(A Nonprofit Organization)

Balance Sheet June 30, 1963

EXHIBIT A

ASSETS		
CASH		$157,841
UNITED STATES TREASURY BILLS—AT COST (market value, $248,907)		248,153
ACCOUNTS RECEIVABLE, NET		52,700
NOTES RECEIVABLE—CENTRAL CALIFORNIA BLOOD BANK	$ 98,000	
Less reserve	98,000	....
NOTE RECEIVABLE—TRUSTEES OF THE CALIFORNIA MEDICAL ASSOCIATION		118,000
FURNITURE AND FIXTURES (at nominal value)		1
ACCRUED INTEREST		754
PREPAID EXPENSE AND DEFERRED CHARGES:		
Insurance	$ 1,365	
Retirement program premium	11,703	
Deposits	1,275	
Other	769	15,112
TOTAL		$592,561
LIABILITIES		
ACCOUNTS PAYABLE:		
American Medical Education Foundation	$200,962	
Other	49,523	$250,485
DEFERRED INCOME:		
Dues and subscriptions applicable to period July 1 to December 31, 1963	$618,988	
Other	1,919	620,907
RESERVE FOR PAST SERVICE ANNUITY PREMIUMS (Note 1)		13,687
EXCESS OF ASSETS OVER LIABILITIES (DEFICIT) (Exhibit B)		*(292,518)*
TOTAL		$592,561

See notes to financial statements

Statement of Income and Expenses for the Years Ended June 30, 1963 and 1962

EXHIBIT B

	YEAR ENDED JUNE 30	
	1963	1962
INCOME:		
Dues and general:		
Membership dues less portion allocated to CALIFORNIA MEDICINE subscription	$1,368,272	$1,230,568
Fee for collection of American Medical Association dues	9,136	6,049
Interest earned	3,276	7,621
Other	11	122
Total	$1,380,695	$1,244,360
Official journal CALIFORNIA MEDICINE:		
Advertising	$ 205,867	$ 184,256
Nonmember subscriptions	3,279	4,099
Reprints, net	1,523	1,531
Total	$ 210,669	$ 189,886
Less expenditures (Schedule 2)	231,350	226,752
Net (cost)	$ *(20,681)*	*(36,866)*
Allocated portion of members' dues	62,389	55,424
Net after allocation	$ 41,708	$ 18,558
TOTAL	$1,422,403	$1,262,918
EXPENSES:		
Administration (Schedule 1)	$ 413,885	$ 410,916
Scientific, educational, and communications (Schedule 2)	1,061,350	826,493
TOTAL	$1,475,235	$1,237,409
EXCESS OF INCOME OVER EXPENSES (DEFICIT) FOR THE YEAR	$ *(52,832)*	$ 25,509
OTHER CREDITS (CHARGES):		
Reduction in reserves on account of payment on loans	$ 12,500	
Adjustment to defer that portion of dues applicable to the period July 1 to December 31, 1962	*(552,014)*	
Expenses applicable to prior years		$ *(1,300)*
TOTAL	$ *(539,514)*	$ *(1,300)*
EXCESS OF ASSETS OVER LIABILITIES:		
Increase (decrease) for the year	$ *(592,346)*	$ 24,209
At beginning of year	299,828	275,619
AT END OF YEAR (Note 2)	$ *(292,518)*	$ 299,828

See notes to financial statements

Statement of Administration Expenses for the Years Ended June 30, 1963 and 1962

EXHIBIT B—SCHEDULE 1

	YEAR ENDED JUNE 30	
	1963	1962
SALARIES (see note):		
Executive	$ 39,260	$ 38,177
Clerical	59,214	60,218
Total	$ 98,474	$ 98,395
OFFICE:		
Rent	$ 17,457	$ 17,016
Supplies	23,119	21,038
Equipment purchases and maintenance	7,556	6,939
Telephone and telegraph	12,471	12,414
Postage	4,566	1,778
Professional fees (other than legal)	2,630	2,608
Los Angeles office (other than salaries)	5,672	4,498
Sundry	3,676	2,663
Total	$ 77,147	$ 68,954
Less services charged to other accounts (including billings to others of $14,096 and $11,073)	37,750	36,275
Net	$ 39,397	$ 32,679
LEGAL	$ 40,186	$ 34,620
MEETINGS:		
Annual session	$ 50,768	$ 48,178
American Medical Association	34,835	31,822
Student-American Medical Association	5,319	6,552
Council	8,419	9,588
Medical Society executives	7,710	10,356
County officers' conference	12,990	21,454
Other	....	49
Total	$120,041	$127,999
Less annual session exhibitors fees	39,405	36,730
Net	$ 80,636	$ 91,269
TRAVEL:		
Council	$ 25,107	$ 23,259
Officers	19,171	29,520
Administrative	10,692	10,543
Total	$ 54,970	$ 63,322
GROUP INSURANCE AND RETIREMENT PROGRAM:		
Retirement Program—Current service	$ 22,273	$ 17,912
Group Life Insurance	7,861	7,779
California Physicians' Service	14,294	12,072
Total	$ 44,428	$ 37,763
OTHER:		
The Women's Auxiliary	$ 7,304	$ 9,518
Physicians' Placement Service	16,753	16,857
Payroll taxes	15,442	13,119
Personal property taxes	1,918	1,518
Dues and subscriptions	5,499	4,627
Insurance	3,336	3,887
Interest	5,062	2,748
Sundry	480	594
Total	$ 55,794	$ 52,868
TOTAL	$413,885	$410,916

NOTE: The total payroll for years ended June 30 was $424,128 for 1963 and $389,599 for 1962, of which $325,654 and $291,204, respectively, are included in other expense classifications or were charged to other organizations.

Statement of Expenses other than Administrative for the Years Ended June 30, 1963 and 1962

EXHIBIT B—SCHEDULE 2

	YEAR ENDED JUNE 30 1963	1962
SCIENTIFIC, EDUCATIONAL, AND COMMUNICATIONS:		
Medical services	$ 31,155	$ 51,627
Public agencies	41,358	26,751
Community health services	56,530	38,581
Cancer commission	30,275	33,529
Medical education (see note)	47,794	53,540
Professional welfare	16,468	23,049
Bureau of research and planning	74,742	76,396
Bureau of communication	199,518	239,292
Committee on legislation	84,028	35,863
Committee for Medical Progress	240,733	....
Special committees of the council	25,194	45,890
Contributions:		
American Medical Education Foundation	190,567	171,520
Physicians' Benevolence Fund, Inc.	19,988	17,735
California League for Nursing	3,000	4,000
Medical Libraries		8,720
TOTAL	$1,061,350	$826,493
OFFICIAL JOURNAL "CALIFORNIA MEDICINE":		
Printing	$ 152,292	$144,540
Salaries	36,873	35,990
Advertising sales expense (including applicable salaries)	23,360	22,083
Rent	3,516	3,516
Telephone and telegraph	3,301	3,058
Postage and mailing	8,999	8,097
Addressograph and supplies	2,458	3,005
Illustrations	2,123	2,875
Cash discounts—Advertisers	3,488	3,137
Sundry	1,840	451
Total	$ 238,250	$226,752
Less representation fee	6,900	....
NET	$ 231,350	$226,752

NOTE: Medical education expenses are reflected net of the following credits:

	1963	1962
Post graduate fees	$17,240	$14,285
Special grants applied	12,950	17,390
Total	$30,190	$31,675

Notes to Financial Statements June 30,1963

NOTE 1: The California Medical Association, in addition to the Group Pension Program effective January 1, 1961, has made provision for a Past Service Pension for certain full time employees. The unpaid balance due on the single premium of $130,257 required to fund this Past Service Pension at June 30, 1963, aggregated $39,257 for which there is a balance of $13,687 on hand from the funds remitted by the Trustees of the California Medical Association. The remaining amount of $25,570, to be paid out of future operations, has not been set up as a liability on the books of the Association at June 30, 1963, and is not reflected in the accompanying financial statements.

NOTE 2: Effective with the current year, membership dues shown as income have been adjusted to reflect dues for the full fiscal year ended June 30, 1963, deferring on the balance sheet the portion applicable to the six-month period subsequent to June 30, 1963. In prior years, dues and related subscriptions for the calendar year had been included in income for the fiscal year with nothing deferred to the subsequent year.

NOTE 3: The California Medical Association is one of the defendants in an action pending in Los Angeles brought by the Osteopathic Physicians & Surgeons of California. It is the opinion of the Association's counsel that the only expense involved in this connection will be legal and court costs which will be billed at the conclusion of the litigation.

TRUSTEES OF THE CALIFORNIA MEDICAL ASSOCIATION

(A Nonprofit Corporation)

Balance Sheet June 30, 1963

EXHIBIT A

ASSETS

CASH		$ 39,265
UNITED STATES TREASURY BONDS, AT MATURITY VALUE (market value, $1,003,069) (Note 4)		1,121,000
ACCOUNT RECEIVABLE—AUDIO-DIGEST FOUNDATION, NET		4,539
NOTE AND ACCOUNT RECEIVABLE		2,428
ACCRUED INTEREST ON BONDS		1,536
INVESTMENTS, AT COST:		
Pacific Magnetic Tape Equipment Co. (Note 1)	$ 9,000	
Six Ninety Three Sutter Publications, Inc.	1,000	10,000
PROPERTY, AT COST (subject to mortgage):		
Land	$ 87,400	
Building and improvements	295,938	
Total	$383,338	
Less accumulated depreciation	39,613	
Net depreciated value		343,725
EQUIPMENT, AT NOMINAL VALUE		1
CASH SURRENDER VALUE OF LIFE INSURANCE POLICY		21,150
PREPAID INSURANCE		1,161
REAL ESTATE TAXES APPLICABLE TO SUBSEQUENT YEAR (contra)		10,200
TOTAL		$1,555,005

LIABILITIES

CALIFORNIA MEDICAL ASSOCIATION:		
Note payable	$118,000	
Account payable	11,323	$ 129,323
MORTGAGE PAYABLE		77,683
INSURANCE PREMIUM PAYABLE AS TRUSTEE FOR AUDIO-DIGEST FOUNDATION		7,350
OTHER ACCOUNTS PAYABLE AND ACCRUED INTEREST		621
ACCRUED REAL ESTATE TAXES (contra)		10,200
TRUST FUNDS		80,290
DEFERRED COMPENSATION PAYABLE		4,500
EXCESS OF ASSETS OVER LIABILITIES:		
Contributed	$883,193	
Excess of income over expenses (Exhibit B)	361,845	1,245,038
TOTAL		$1,555,005

See notes to financial statements

Statement of Income and Expenses for the Year Ended June 30, 1963

EXHIBIT B

INCOME:		
Excess of property income over expenses (Schedule 1)		$ 14,412
Other:		
Interest on United States Treasury bonds and bills	$28,069	
Interest on contract and notes, net	5,055	
Dividend (Pacific Magnetic Tape Equipment Co.)	900	
Miscellaneous	34	34,058
Total Income		$ 48,470
EXPENSES (other than property):		
Interest	$ 4,855	
Fees	1,953	
Insurance	218	
Other	11	
Total Expenses		7,037
Remainder		$ 41,433
OTHER CHARGES:		
Net premium on life and retirement insurance policy	$ 4,595	
Provision for the retirement or other benefit of an employee of an affiliated organization	3,000	
Provision for deferred compensation	4,500	12,095
EXCESS OF INCOME OVER EXPENSES:		
Current year		$ 29,338
Total at beginning of year		332,507
TOTAL AT END OF YEAR		$361,845

See notes to financial statements

TRUSTEES OF THE CALIFORNIA MEDICAL ASSOCIATION

Statement of Property Income and Expenses for the Year Ended June 30, 1963

EXHIBIT B—SCHEDULE 1

INCOME FROM RENTALS:		
California Medical Association	$47,521	
Others	22,038	
Total		$69,559
EXPENSES:		
Utilities	$ 5,215	
Janitor service and maintenance	11,478	
Repairs—Plumbing, electric, etc.	2,811	
Alterations	2,527	
Insurance	1,028	
Elevator inspection and service	1,256	
Supplies	1,073	
Sundry	123	
Total	$25,511	
Taxes	10,349	
Interest on mortgage	3,453	
Interest on borrowed money for purchase of property and making improvements thereon	5,766	
Total before depreciation	$45,079	
Depreciation	10,068	
Total		55,147
EXCESS OF PROPERTY INCOME OVER EXPENSES:		$14,412

Notes to Financial Statements June 30, 1963

NOTE 1: The Trustees of the California Medical Association, as a nonprofit corporation, owns all of the outstanding stock of the Pacific Magnetic Tape Equipment Co., which was formed for the purpose of merchandising magnetic tape equipment as an adjunct to the activities of the Audio-Digest Foundation, a wholly-owned subsidiary of the California Medical Association. An unaudited financial statement of the Pacific Magnetic Tape Equipment Co., as of June 30, 1963, reflects a net worth of $17,682 at that date. We are informed that the Pacific Magnetic Tape Equipment Co. is now in the process of dissolution and liquidation of its assets.

NOTE 2: The portion of the Trust Funds applicable to the retirement or similar benefit of Mr. and Mrs. Ben H. Read, amounting to $45,000 at June 30, 1963, has not been segregated from other assets of the corporation as directed by Chapter XVII of the bylaws of the corporation which states: ". . . All assets of this fund shall be held separate and apart from all other assets and property of the corporation . . ."

NOTE 3: The Trustees of the California Medical Association is guarantor to the Crocker-Anglo National Bank for loans to a maximum amount of $40,000 for the California Commission for Accreditation of Nursing Homes and Related Facilities. Loans outstanding under this guaranty at June 30, 1963, were reported to aggregate $40,000.

NOTE 4: The United States Treasury bonds kept in a custodian account with the Crocker-Anglo National Bank are pledged to that bank for loans when and if needed, and for loans for which the Trustees is guarantor. There were no direct loans payable at June 30, 1963.

PHYSICIANS' BENEVOLENCE FUND, INC.

(A Nonprofit Corporation)

Statement of Assets June 30, 1963

EXHIBIT A

ASSETS

CASH			$ 27,517
INVESTMENTS:			
U. S. Treasury 2½% bonds, at maturity values:			
Due December 15, 1969	$10,000		
Due December 15, 1972	34,000		
Total (market value, $39,490)		$44,000	
U. S. Treasury bills, at cost:			
Due August 1, 1963, $25,000	$24,817		
Due September 19, 1963, $15,000	14,886		
Total (market value, $39,834)		39,703	
TOTAL			83,703
NOTE RECEIVABLE SECURED BY DEED OF TRUST—LOS ANGELES COUNTY PHYSICIANS AID ASSOCIATION (due in quarterly installments of $1,000 plus interest at 2½% per annum—Original amount, $50,000)			42,000
ACCRUED INTEREST RECEIVABLE			264
TOTAL			$153,484

SOURCE OF ASSETS

CONTRIBUTED AT ORGANIZATION	$ 92,132
EXCESS OF INCOME OVER EXPENDITURES (Exhibit B)	61,352
TOTAL	$153,484

Statement of Income and Expenditures for the Year Ended June 30, 1963

EXHIBIT B

INCOME:		
Contributions received:		
California Medical Association (see note)	$19,988	
The Woman's Auxiliary of the California Medical Association	3,005	$22,993
Interest earned:		
U. S. Treasury bonds and bills	$ 2,064	
Loans	1,310	3,374
TOTAL		$26,367
EXPENDITURES:		
Payments to beneficiaries:		
Payment to Los Angeles County Physicians Aid Association	$ 6,000	
Payments to other beneficiaries	8,700	
Total payments to beneficiaries	$14,700	
Other	409	
TOTAL		$15,109
EXCESS OF INCOME OVER EXPENDITURES:		
Current year		$11,258
At beginning of year		50,094
AT END OF YEAR		$61,352

NOTE: The constitution of the California Medical Association, Article IV, Section 6, was amended in May, 1956, and provides: "At least $1 out of the annual dues paid by each active member of the Association shall be allocated to the Physicians' Benevolence Fund, Inc., a corporation, and shall be used for the purposes as set forth in that corporation's Articles and Bylaws."

SIX NINETY THREE SUTTER PUBLICATIONS, INC.

Balance Sheet
June 30, 1963

EXHIBIT A

ASSETS

CASH		$3,499
ACCOUNTS RECEIVABLE		73
INVENTORY		1,206
DEPOSIT AND DEFERRED ORGANIZATIONAL EXPENSE		107
TOTAL		$4,885

LIABILITIES AND STOCKHOLDER'S EQUITY

LIABILITIES:		
Account payable—California Medical Association, net	$1,961	
Other accounts payable	51	
Federal income tax payable	300	
Total liabilities		$2,312
STOCKHOLDER'S EQUITY:		
Capital stock (authorized, 2,500 shares of $10.00 par value each; issued and outstanding, 100 shares) (see note)	$1,000	
Retained earnings (Exhibit B)	1,573	
Total stockholder's equity		2,573
TOTAL		$4,885

NOTE: The Trustees of the California Medical Association is the sole stockholder of this Corporation.

Statement of Income and Retained Earnings for the Year Ended June 30, 1963

EXHIBIT B

OPERATING REVENUE:			
Sales		$7,050	
Cost of goods sold		2,893	
GROSS PROFIT ON SALES			$4,157
EXPENSES:			
Office expense:			
Services	$1,200		
Rent	300		
Supplies	287		
Fees	375		
Other	19	$2,181	
Shipping expense:			
Services	$ 300		
Postage, freight, and express, net	409	709	
Personal property taxes		76	
State franchise and sales tax		110	
Interest		80	
TOTAL			3,156
NET INCOME BEFORE FEDERAL INCOME TAX			$1,001
FEDERAL INCOME TAX			300
NET INCOME FOR THE YEAR			$ 701
RETAINED EARNINGS:			
At beginning of the year			872
AT END OF THE YEAR			$1,573

CALIFORNIA MEDICAL EDUCATION AND RESEARCH FOUNDATION
(A Nonprofit Corporation)

Balance Sheet
June 30, 1963

EXHIBIT A

ASSET

CASH		$47,475

LIABILITY, UNEXPENDED PORTION OF GRANTS AND (DEFICIT)

CALIFORNIA MEDICAL ASSOCIATION		$ 6,533
UNEXPENDED PORTION OF GRANTS RECEIVED:		
Audio-Digest Foundation	$32,500	
United States Department of Health, Education, and Welfare	8,774	41,274
EXCESS OF RECEIPTS OVER EXPENDITURES (DEFICIT)		*(332)*
TOTAL		$47,475

See notes to financial statements

Statement of Receipts Expenditures and Fund Balances for the Year Ended June 30, 1963

EXHIBIT B

	TOTAL	GRANTS Audio-Digest Foundation	GRANTS U. S. Dep't of Health, Education, and Welfare	General Funds
RECEIPTS:				
Contributions	$ 15			$ 15
Grants	47,134	$32,500	$14,634	
TOTAL	$47,149	$32,500	$14,634	$ 15
EXPENDITURES:				
Contribution — California College of Medicine	$ 6,250	$ 6,250		
Services:				
Administrative	3,070		$ 3,070	
Other	1,148		873	$ 275
Supplies and printing	760		557	203
Telephone and telegraph	215		203	12
Mailing and postage	132		74	58
Travel and meetings	2,242		2,183	59
Charges to cover payroll taxes and employees' benefits on services	329		287	42
Reporting	180		180	
Professional fees	525			525
TOTAL	$14,851	$ 6,250	$ 7,427	$ 1,174
UNEXPENDED PORTION OF GRANTS RECEIVED:				
Increase, current year		$26,250	$ 7,207	
Balance, beginning of year		6,250	1,567	
Balance, end of year		$32,500	$ 8,774	
EXCESS OF RECEIPTS OVER EXPENDITURES:				
Current year (deficit)				*$(1,159)*
At beginning of year				827
AT END OF YEAR (deficit)				$ *(332)*

See notes to financial statements

Notes to Financial Statements June 30, 1963

NOTE 1: In 1962, the Foundation was awarded a community health project grant by the United States Department of Health, Education ,and Welfare. For the first year beginning June 1, 1962 and ending May 31, 1963, the Foundation received $11,778, of which $3,675 was received prior to June 30, 1962.

As of March 19, 1963 the Foundation was awarded a continuing grant of $26,131 for the period June 1, 1963 and ending May 31, 1964, of which $6,532 had been received at June 30, 1963. Subject to the availability of funds and the successful development of the project, an amount of $30,651 has been tentatively approved for the next succeeding year.

A progress report and preliminary financial report are required to be submitted at the time application is made for the third year, which must be made prior to February 29, 1964.

NOTE 2: The contribution by Audio-Digest Foundation is to be used for medical education.

NOTE 3: The sum of $25,000 has been appropriated for the use of California College of Medicine, of which $6,250 had been paid at June 30, 1963.

EXECUTIVE SECRETARY

(Continued from Page 56)

If this budget gains final approval from the Council and the House of Delegates, 1965 dues may be set at $75 per active member once more. In this connection it should be borne in mind that new programs voted by the policy-making bodies may call for the appropriation of additional funds to meet the anticipated costs. It is the function of the staff to anticipate such financial needs and to call the attention of the Council to any such needs.

4. *Membership.* A net gain of 457 active members was registered by the Association between November 1, 1962 and September 1, 1963. This gain came through an increase of 502 members registered by 29 component societies and a loss of 45 members by seven societies. Of those registering a loss, one society was disbanded during the year and its members affiliated with neighboring societies. Five component societies showed the same number of active members on September 1 than reported ten months earlier.

Ten of the 11 Councilor Districts in the state registered net gains in active membership of from 21 to 96 members. One district showed a net loss of two members. The September 1, 1963, membership totals indicate no changes in the number of elected Councilors eligible in any district.

The active membership of all component societies as of September 1, 1963, the date on which Councilor representation is based, is shown in the following table:

Active Membership in the C.M.A. by Component Societies

Societies	Nov. 1, 1962	Sept. 1, 1963
Alameda-Contra Costa	1,566	1,597
Butte-Glenn	91	100
Forty First	1,801	1,885
Fresno	293	316
Humboldt-Del Norte	86	88
Imperial	50	48
Inyo-Mono	10	10
Kern	226	231
Kings	33	34
Lassen-Plumas-Modoc	26	26
Los Angeles	7,341	7,372
Madera	17	----
Marin	205	216
Mendocino-Lake	61	64
Merced	55	56
Monterey	195	183
Napa	80	84
Orange	737	791
Placer-Nevada	72	63
Riverside	255	276
Sacramento	483	506
San Benito	9	9
San Bernardino	358	371
San Diego	989	1,021
San Francisco	1,778	1,776
San Joaquin	230	236
San Luis Obispo	86	86
San Mateo	533	552
Santa Barbara	259	277
Santa Clara	865	941
Santa Cruz	107	116
Shasta Trinity	70	72
Siskiyou	24	25
Solano	76	76
Sonoma	178	183
Stanislaus	160	166
Tehama	18	17
Tulare	107	112
Ventura	150	155
Yolo	54	52
Yuba-Sutter-Colusa	57	59
TOTAL	19,791	20,248

5. CALIFORNIA MEDICINE. The journal continued its forward progress during 1963. A large number of scientific articles appeared and their scientific value appears to be improved over earlier volumes. From the business point of view the journal registered a sharp increase in advertising income, contrary to the downward trend registered by many state and sectional journals.

Advertising income for the fiscal year ended June 30, 1963, came to $205,867, and increase of 11.7 per cent over the preceding year. Printing costs were up 6.6 per cent to $152,292, and total costs up 2 per cent to $231,350. Net results for the year showed a balance of $41,708, compared with $18,558 in the 1962 fiscal year.

The arrangement with *Northwest Medicine*, representing the medical associations of Idaho, Oregon and Washington, for the staff of CALIFORNIA MEDICINE to supply advertising representation continued through the year in very satisfactory manner. This representation permits California to enjoy a more dynamic advertising presentation and serves our northern colleague well. In effect, it reduces advertising sales cost for *Northwest Medicine* and allows CALIFORNIA MEDICINE to send its salesman into the eastern markets more frequently. The new drug advertising regulations have cast a shadow of doubt over many advertisers and their agencies and have resulted in a greatly decreased volume of business placed in national, regional and state publications. Fortunately, our journal has been retained on many advertising lists from which many others have been removed. This trend continues but we are hopeful of maintaining our position in the coming year. Should the drug producers prevail over the Food & Drug Administration in all or some of their claims of over-regulation, the advertising situation would improve for all publications and CALIFORNIA MEDICINE could count upon its share of any increase.

6. *Annual Session.* The staff has again worked closely with the Scientific Board and its several committees in making arrangements for the 1964 Annual Session. As usual, the problem of suitable space for some meetings, especially those scheduled simultaneously with others, remains for solution but the facilities of the renovated Biltmore Hotel in Los Angeles appear to be adequate for all needs. Technical exhibitors have again evidenced their great interest in this meeting and will participate in large numbers. Motion picture and closed-circuit TV programs have attracted a large number of participants and followers and an outstanding program of scientific papers is promised.

7. *Conclusion.* Your staff continues to carry out the functions, policies and projects given to it by actions of the House of Delegates, the Council and your elected officers. Staff policy dictates that flexibility be maintained at all times, so that new programs can be fitted as well as possible into existing staff organization and new permanent staff additions be kept at the minimum level. While this desired end cannot be met at all times the officers and members of the governing bodies may rest assured that featherbedding and empire building have no place in the C.M.A. staff organization. A staff of recognized ability and resource has been assembled over a period of years and is today at your command.

At the same time, the thanks of the staff are due to all officers, Councilors, commission and committee members and others for their willingness and readiness to devote their time, effort and abilities to the carrying on of all business of the C.M.A. These characteristics are necessary in the members selected for various positions and they are most evident in those chosen to date. It continues to be a privilege to work with and in behalf of such dedicated members.

Respectfully submitted,
JOHN HUNTON, *Executive Secretary*

1964
Annual Session

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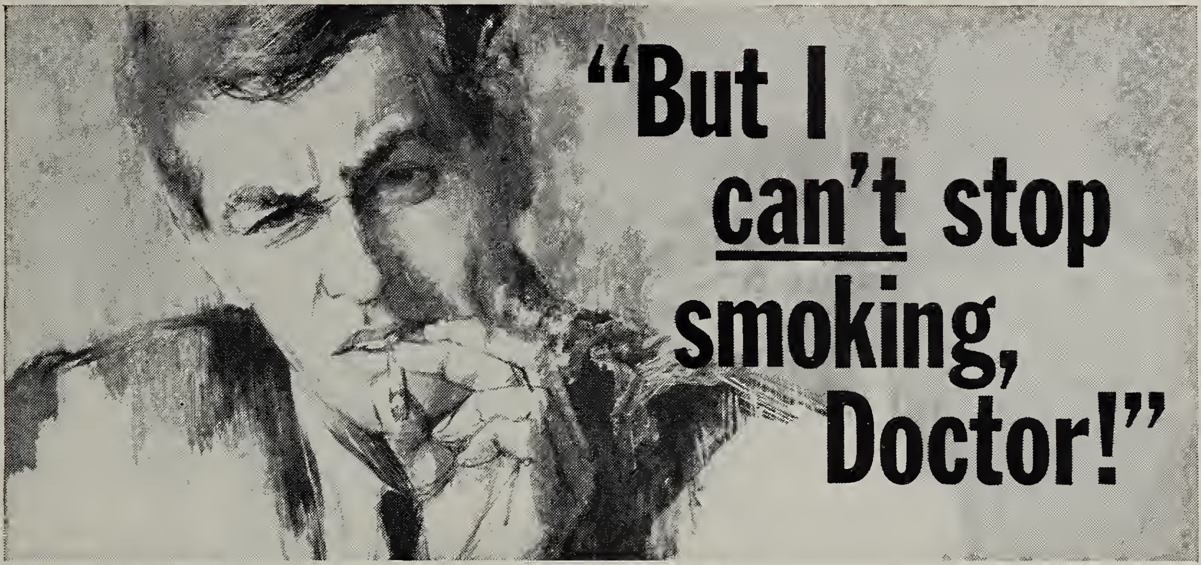

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Newer Breast Cancer Surgery Improves Survival Rate

A more extensive operation for breast cancer has been credited with increasing the five-year survival rate of these patients by 13 per cent.

Dr. Everett D. Sugarbaker, Jefferson City, Mo., reported the encouraging results with extended radical mastectomy in the Jan. 11 *Journal of the American Medical Association.*

The technique consists of removing the chain of internal mammary lymph nodes that lie near the midline of the chest in addition to the axillary lymph chain near the armpit, Dr. Sugarbaker explained. The operation includes the removal of a segment of chest wall overlying the mammary chain, he said.

To evaluate the extended surgery, Dr. Sugarbaker compared 158 patients who underwent the newer technique between 1951-1957 with 88 patients who had conventional operations between 1947-1950.

Dr. Sugarbaker said he performed all the operations on private patients and, on the basis of axillary involvement, the extent of the tumor was roughly comparable in both groups.

Of those operated on in the conventional manner, 50 of 88 cases or 57 per cent survived the five-year period, he reported. Among those undergoing the extended procedure, 111 of 158, or 70 per cent, survived for five years.

The patients accounting for most of the increased survival rate were those in whom the cancer involved both the internal mammary and axillary lymphatics, Dr. Sugarbaker said. In these patients, he said, the percentage surviving increased from 37 per cent for those undergoing conventional surgery to 70 per cent for those undergoing extended radical mastectomy.

The increased survival appears to be derived from those patients in whom the tumor spread via the lymph routes rather than via the blood system, he said.

Commenting on the report in an accompanying Journal editorial, Dr. Warren Cole, Chicago, said:

"Better understanding and further experience are needed first, to determine when the extended technique should be used and when the conventional operation should be done. In the meantime, this report does represent progress in our attempt to continue to increase the survival rate after surgical therapy for cancer.

Lung Function Differs Between Smokers and Nonsmokers

(Continued from Page 31)

laity compared to the tobacco-lung cancer problem.

"In recent years, however, an increasingly convincing body of evidence is accumulating to implicate chronic use of tobacco, particularly inhalation of cigarette smoke, as a major factor in the etiology of chronic respiratory insufficiency."

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as antihypertensive agent in hospital outpatients, J.A.M.A. *181*:1043, Sept. 22, 1962. 6. Costello, A. C.: Clinical experience with the antihypertensive drug, mebutamate, M. Times. *91*:53, Jan. 1963. 7. DuChez, J. W.: Clinical evaluation of a new antihypertensive drug acting in the CNS, Scientific Exhibit, American Medical Association, New York, June 25-30, 1961. 8. Duncan, G. G.: Essential hypertension, the dilemma it presents, Pennsylvania M. J. *64*:1442, Nov. 1961. 9. Duncan, G. G.: Dilemmas in the management of essential hypertension, New York J. Med. *62*:1573, May 15, 1962. 10. Fishback, D. B., and Castor, L. H.: Effective hypertension therapy with least side effects: Observations on mebutamate and hydrochlorothiazide, J. Am. Geriatrics Soc. *11*:432, May 1963. 11. Gobel, W. K.: Clinical report on mebutamate—a new antihypertensive agent, North Carolina M. J. *23*:349, Aug. 1962. 12. Hobbs, L. F.: Mebutamate, a new approach to the treatment of hypertension, Circulation (Pt. II). *24*:956, Oct. 1961. 13. Holloman, J. L. S., Jr.: Treatment of hypertensive patients with mebutamate, a new antihypertensive drug, J. Nat. M. A. *54*:94, Jan. 1962. 14. Kheim, T., and Kountz, W. B.: Treatment of hypertension in geriatric practice, New York J. Med. *62*:1596, May 15, 1962. 15. Kolodny, A. L.: Technic of drug evaluation in hypertension, New York J. Med. *62*:1585, May 15, 1962. 16. Leslie, C. H.: A new antihypertensive drug (mebutamate) in the treatment of refractory hypertension in geriatric patients: preliminary report, J. Am. Geriatrics Soc. *10*:85, Jan. 1962. 17. Page, I. H., and Dustan, H. P.: Persistence of normal blood pressure after discontinuing treatment in hypertensive patients. Editorial, Circulation. *25*:433, March 1962. 18. Shubin, H.: Evaluation of mebutamate (Capla), a new concept in hypertension therapy, Scientific Exhibit, American College of Cardiology, New York, May 17-20, 1961. 19. Snow, E. W.: Efficacy of mebutamate as a basic antihypertensive drug compared with previously prescribed antihypertensive drugs, Clin. Med., in press. 20. Turek, L. H.: Clinical evaluation of mebutamate, an antihypertensive agent: preliminary report, Clin. Med. *8*:1335, July 1961.

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Complications Produced By Prolonged Fasts

Prolonged starvation of obese persons can result in serious complications, according to a study reported in the Jan. 11 *Journal of the American Medical Association.*

Among 11 patients who consumed only water and vitamins for periods ranging from 12 to 117 days, severe postural low blood pressure occurred in 3, gouty arthritis in 2, and severe anemia in 1, while 3 other patients developed mild anemia, a University of California medical team reported.

The researchers concluded that prolonged starvation was not advisable for obese patients with a history of cardiovascular or cerebral circulatory problems, gout, or liver disease.

The study was reported by Ernst J. Drenick, M.D., Marion E. Swendseid, Ph.D., William H. Blahd, M.D., and Stewart G. Tuttle, M.D., Los Angeles.

Common early side effects consisted of mild headaches, occasional nausea, and some nervousness and tension, they said, but these difficulties abated readily and rarely required medication.

One of the most striking and potentially serious complications reported was the development of postural hypotension, a drop in blood pressure upon standing up which produces weakness, fatigue, dizziness, and blurred vision. In one patient this occurred after only 12 days of starvation, but usually it did not become noticeable until the third or fourth week of fasting.

All but one of the patients were men, and a variety of diseases was represented by the group. Ages ranged from 32 to 71, and weights from 240 to 450 pounds.

Weight losses averaged less than a pound a day, the researchers said. The greatest net loss in one continous period of starvation was 116 pounds in 117 days by a 39-year-old five foot, six inch, 315-pound woman. Only one patient was able to attain a near-normal weight in a single continuous fast.

In general, the researchers found, physical endurance and energy decreased slowly. Severe weakness was uncommon. Younger patients actually seemed to remain fairly vigorous, while older patients required frequent short rests.

The most astonishing aspect of the study, the authors said, was the ease with which prolonged starvation was tolerated. This experience contrasted most dramatically with the hunger and suffering described by individuals who, over a prolonged period, consume a calorically inadequate diet, they pointed out. It was remarkable, they said, that the fast seemed easier for the patient the longer it lasted.

The researchers reported, to their knowledge, the 117-day starvation period had not been exceeded in other similar experiments.

"It appears that the length of starvation which the individual patient will be able to tolerate is unpredictable."

Those who eventually obtained a normal weight seemed to have undergone decisive changes in their eating habits, and seemed to eat a substantially smaller amount than prior to starvation. However, they stressed that the number of patients studied and the follow-up periods were inadequate to make any valid statement on long-range results.

"Prolonged starvation . . . should not be viewed as a panacea for all obese individuals," an accompanying editorial counseled. "The desire of the starving but unhungry patient to effect a more drastic

(Continued on Page 45)

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FLEXIBILITY: The test does not require the presence of the patient for the determination of the radioactivity. The serums can be frozen and saved until a sufficient number has been collected to run a rack full of tubes at one time, or serum samples can be mailed to personnel performing the test.

Triosorb is available to all doctors, hospitals and clinical laboratories—AEC licensing is not required. For more information, write to the Department of Radio-Pharmaceuticals, Abbott Laboratories, North Chicago, Illinois.

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First Lung Transplant Described In JAMA

A successful lung transplantation in man—believed to be the first—was described today by a University of Mississippi medical team in the December 21 *Journal of the American Medical Association.*

The transplanted lung functioned until the death of the recipient from kidney failure 18 days later, according to Drs. James D. Hardy, Watts R. Webb, Martin L. Dalton, Jr. and George R. Walker, Jr., Jackson, Miss.

This experience "opens the way to further careful exploration of lung homotransplantation in man," the researchers said.

This operation shows that such a procedure is "readily accomplished technically," they said, and that a transplanted lung "can participate in respiratory support of the recipient."

The immunogenic response which causes a recipient to reject a grafted organ from an unrelated donor was suppressed by drugs, they reported.

An accompanying Journal editorial said: "The transplantation of organs has come to assume an important place in medical thought and investigation. It may soon have a prominent role in clinical practice."

Organ transplantation has become a reality through the development of improved methods for joining blood vessels, cooling techniques and ways to minimize loss of oxygen from tissue, the editorial continued.

"It is now technically possible to transplant virtually all organs, including the heart," it said. "While drug suppression of the reaction of the recipient to tissue from a genetically dissimilar donor is not yet sufficiently effective to permit indiscriminate homotransplantation in man, the results are encouraging."

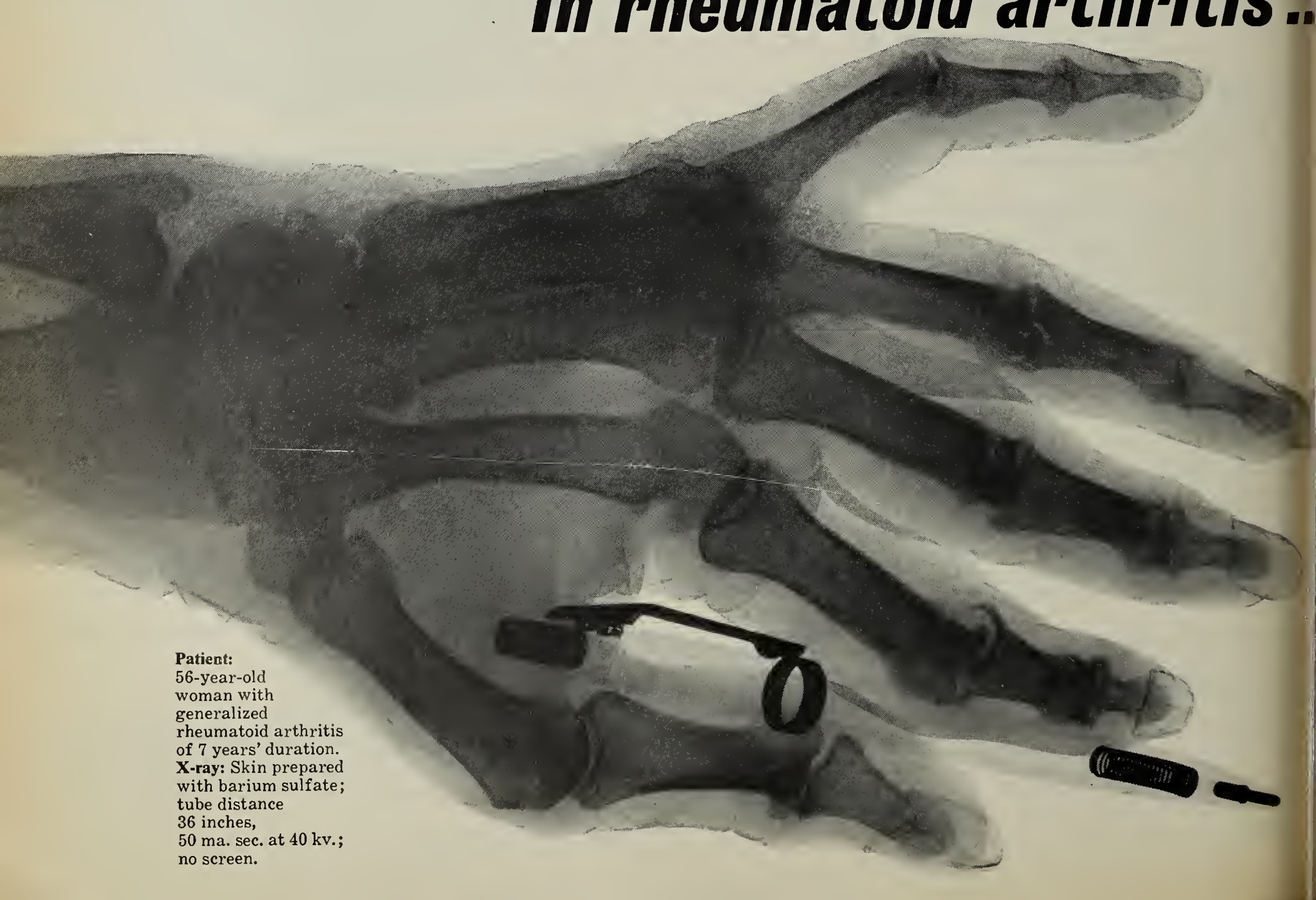
The recipient was a 58-year-old man who was serving a life sentence for a capital offense when he was admitted to the University Hospital on April 15, 1963, with the diagnosis of repeated attacks of pneumonia, according to the Journal report. He was found to have a cancer and infection in the left lung, emphysema of the right lung and advanced kidney disease.

The moral decision to attempt the transplant was based on the determination that the patient had "a limited prospective lifespan" due to the cancer, the researchers said.

Mild exertion caused labored breathing and it was hoped that this would be relieved over the remaining months of his life should the lung function as well as it had in some previous transplants in animals, they said.

The patient preferred a possible cure by surgery

In rheumatoid arthritis..



Patient:
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woman with
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to probable palliative irradiation, they said, and he was willing to accept the transplant of a left lung.

Almost a week passed after the decision was made before a donor lung became available, the physicians said. The lung was obtained from a man who died of a heart attack at the hospital, they said.

The operation, lasting three hours, took place immediately on June 11, 1963, according to the report.

The lung was without circulation for about 90 minutes, the researchers said. Rhythmical inflation of the lung with pure oxygen was continued during this time, they said, and the lung was cooled prior to insertion to preserve it.

While the donor and recipient were men of almost equal size, the researchers commented, the donor lung was quite large, relative to the contracted chest space of the recipient. However, they said, this problem was overcome satisfactorily.

Tests on the first postoperative day "confirmed the fact that this lung was being perfused (with blood) and that it was participating effectively in the respiratory process," the researchers reported.

During the ensuing days there was little change in the status of the lungs, they said.

However, the patient had no appetite and was tube fed, they said. The chronic kidney disease had impaired kidney reserve to such an extent that acute kidney insufficiency developed following the operation, they said. Despite treatment of the kidney ailment, they said, "the patient's inability to achieve adequate renal function, along with an increasing state of malnutrition and general debility, gradually sapped his strength, and he died on the 18th postoperative day."

At autopsy, they added, there was virtually no evidence suggestive of graft rejection.

Complications Produced By Prolonged Fasts

(Continued from Page 42)

weight loss more quickly may induce him to extend the period of starvation. This can be dangerous.

"At this time, it is not possible to compare the results obtained in prolonged starvation with those in prolonged use of low-calorie diets. Conceivably, reduced metabolic and physical activity of the starving patient could offset the advantage of total caloric restriction. Despite the hazards of starvation, it seems that, in certain excessively obese patients, the gratifying weight loss without hunger may bring about the desired immediate results and help establish a normal eating pattern where other dietary restrictions may fail."

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Dosage: In rheumatoid arthritis, the initial daily dosage ranges from 2 to 4 tablets (1.5 to 3.0 mg.). The dosage is then decreased gradually to the minimum that will maintain sufficient relief; this may be as little as 1 tablet (0.75 mg.) per day. After extended therapy, it is especially important that the drug be withdrawn gradually to allow recovery of normal adrenal function.

1. Boland, E. W.: J.A.M.A. 17:835 (Oct. 15) 1960. 2. Black, R. L., et al.: Arthritis and Rheumatism 3:112 (April) 1960.

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BOOKS RECEIVED

Books received by CALIFORNIA MEDICINE *are acknowledged in this column. Selections will be made for more extensive review in the interest of readers as space permits.*

ADVANCES IN BIOLOGY OF SKIN: Vol. IV, The Sebaceous Glands. Proceedings of the Brown University Symposium on the Biology of Skin, 1962. Edited by William Montagna, Richard A. Ellis, and Alene F. Silver, Arnold Biological Laboratory, Brown University, Providence 12, Rhode Island. This book is distributed by The Macmillan Company, New York, pursuant to a special arrangement with Pergamon Press Limited, Oxford, England. 260 pages, $12.50, 1963.

ANESTHESIA FOR INFANTS AND CHILDREN—Second Edition—Robert M. Smith, M.D., Anesthesiologist, The Children's Medical Center, Boston, Mass.; Assistant Clinical Professor of Anesthesia, Harvard Medical School, Boston, Mass.; Consultant in Anesthesia, U.S. Naval Hospital, Chelsa, Mass., and Lemuel Shattuck Hospital, Jamaica Plain, Mass. Foreword by Robert E. Gross, M.D. The C. V. Mosby Company, St. Louis, Mo., 1963. 470 pages, with 191 illustrations, $13.50.

ATLAS OF BILIARY TRACT SURGERY—Frank Glenn, M.D., Lewis Atterbury Stimson Professor of Surgery, Cornell University Medical College; Surgeon-in-Chief, The New York Hospital. Illustrations by Casper Henselmann. The Macmillan Company, 60 Fifth Avenue, New York 11, Collier-Macmillan Limited, London, 1963. 145 pages, $15.00.

BLOOD DISEASES—M. A. Atamer, M.D. , former Research Associate, Hematologist, Rockefeller Institute, New York; Senior Research Investigator, New York University; Director, Section of Hematology, Department of Medicine, Grasslands Hospital. Grune & Stratton, Inc., 381 Park Avenue South, New York 16, N.Y., 1963. 616 pages, $16.50.

COMPLICATIONS OF MODERN MEDICAL PRACTICES, THE—A Treatise on Iatrongenic Diseases—David M. Spain, M.D., Clinical Professor of Pathology, State University of New York, Downstate Medical Center; Pathologist, Beth-El Hospital, Brooklyn, New York; Formerly, Director of Department of Laboratories and Research and Medical Examiner of Westchester County, New York; Formerly, Associate Professor of Pathology, College of Physicians and Surgeons, Columbia University, New York. Grune & Stratton, Inc., 381 Park Avenue South, New York 16, N.Y., 1963. 342 pages, $12.75.

DIAGNOSTIC LABORATORY HEMATOLOGY—Third Edition, Revised and Enlarged—George E. Cartwright, M.D., Professor of Medicine, College of Medicine, University of Utah, Salt Lake City, Utah. Grune & Stratton, Inc., 381 Park Avenue South, New York 16, N.Y., 1963. 339 pages, $8.75

ELECTROCARDIOGRAPHIC NOTEBOOK—Second Edition—M. Irene Ferrer, M.D., Associate Professor of Clinical Medicine, Department of Medicine, Columbia University College of Physicians & Surgeons; Visiting Physician, The First Medical (Columbia University) Division, Bellevue Hospital; Director, Electrocardiographic Laboratory, Columbia Presbyterian Medical Center, New York. Hoeber Medical Division, Harper & Row, Publishers, 49 East 33rd Street, New York 16, N. Y., 1964. 111 pages, $2.75.

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THE PHYSICIAN'S FEDERAL INCOME TAX GUIDE. By the Physician's Financial Advisory Service. 1964 ed. (covering 1963 returns). Channel. $3.

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EMG, THE—A Guide and Atlas for Practical Electromyography, with 42 illustrations—Forbes H. Norris, Jr., M.D., Associate Professor of Neurology and Acting Chairman of the Neurology Division, Department of Medicine, University of Rochester; Senior Associate Physician, Strong Memorial Hospital, Rochester, New York; with an introduction by G. Milton Shy, M.D., Professor and Chairman, Department of Neurology, University of Pennsylvania. Grune & Stratton, Inc., 381 Park Avenue South, New York 16, N.Y., 1963. 134 pages, $4.75.

GENERAL PRINCIPLES OF BLOOD TRANSFUSION—Prepared by the Subcommittee on Transfusion Problems, Division of Medical Sciences, National Academy of Sciences—National Research Council. J. B. Lippincott Company, East Washington Square, Philadelphia 5, Pa., 1963. 40 pages, $2.00.

INDUSTRIAL BLADDER CARCINOGENESIS—I. S. Temkin. Translated by John J. Oliver. English Translation edited by William J. P. Neish. A Pergamon Press Book, The Macmillan Company, 60 Fith Avenue, New York 11, N.Y., 1963. 367 pages, $12.50.

INFECTIOUS DISEASES OF THE CONJUNCTIVA AND CORNEA—Symposium of the New Orleans Academy of Ophthalmology—Henry F. Allen, M.D., Robert P. Burns, M.D., Wendell D. Gingrich, M.D., Isadore Givner, M.D., Samuel N. Key, Jr., M.D., Samuel J. Kimura, M.D., and Phillips Thygeson, M.D., The C. V. Mosby Co., 3207 Washington Blvd., St. Louis 2, Mo., 1963. 230 pages, $12.50.

LANGUAGE FOR THE PRESCHOOL DEAF CHILD—Second Edition, Grace M. Harris, Director of the Program and Supervisor of Nursery-Kindergarten Education, Children's Art, Early Education of the Deaf with Parents' Classes, at the Preschool Hearing Clinic, Hamilton, Ontario. Foreword by Dr. S. R. Silverman. Grune & Stratton, Inc., 381 Park Avenue South, New York 16, N.Y., 1963. 354 pages, $6.75.

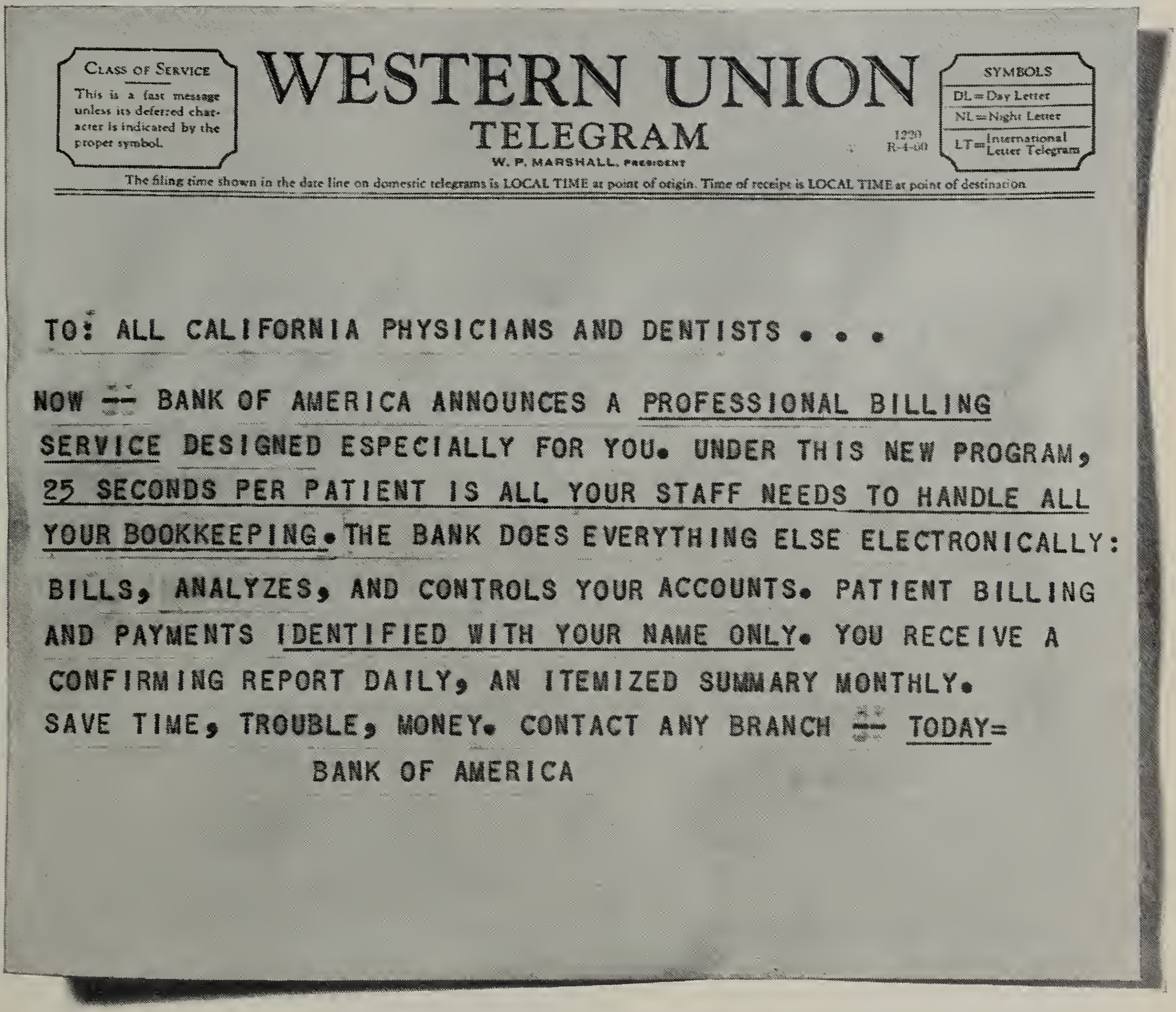
OUTLINE OF HUMAN REPRODUCTION—Ian Macgillivray, M. D., F.R.C.O.G., Professor of Obstetrics and Gynaecology in the University of London at St. Mary's Hospital Medical School, London; formerly Senior Lecturer in Midwifery and Gynaecology, University of Aberdeen. E. & S. Livingston Ltd., Edinburgh and London, 1963. Distributed in the United States by the Williams & Wilkins Company, Baltimore 2, Md., 100 pages, $2.50.

PATHOLOGY OF TUMOURS OF THE NERVOUS SYSTEM—Second Edition—Dorothy S. Russell, Sc.D., M.A., M.D., F.R.C.P., Late Director, Bernhard Baron Institute of Pathology, London Hospital; Emeritus Professor of Morbid Anatomy, University of London; and L. J. Rubinstein, M.D., Attending Neuropathologist, Montefiore Hospital, New York City; Associate Professor of Neuropathology, College of Physicians and Surgeons, Columbia University; Late Senior Lecturer in Morbid Anatomy, London Hospital Medical College. The Williams & Wilkins Co., Baltimore 2, Md., exclusive U.S. agents, 1963. 345 pages, $13.50.

RESTORATION OF FUNCTION AFTER BRAIN INJURY—A. R. Luria. Translated from the Russian by Basil Haigh, M.A., M.B., B.Chir. Translation edited by O. L. Zangwill, Professor of Experimental Psychology at the University of Cambridge. A Pergamon Press Book, distributed by the Macmillian Company, 60 Fifth Avenue, New York 11, N.Y., 1963, pursuant to a special arrangement with Pergamon Press Limited. 277 pages, $10.00.

THYROID AND ITS DISEASES, THE—Third Edition—James Howard Means, M.D., Jackson Professor of Medicine, Emeritus and Chief of Medical Services Emeritus; Leslie J. DeGroot, M.D., Associate in Medicine; and John B. Stanbury, M.D., Associate Clinical Professor of Medicine; all of Harvard Medical School and Medical Service and Thyroid Clinic, Massachusetts General Hospital. McGraw-Hill Book Company, Inc. (The Blakiston Division), New York, 1963. 618 pages, $15.95.

YEAR BOOK OF ANESTHESIA (1963-1964 Year Book Series)—edited by Stuart C. Cullen, M.D., Professor and Chairman, Department of Anesthesia, University of California Medical Center, San Francisco. Year Book Medical Publishers, Inc., 35 E. Wacker Drive, Chicago 1, Ill., 1963. 392 pages, $8.50. (This volume is the first edition of a YEAR BOOK devoted entirely to matters anesthetic. In the past, articles related to anesthesia have appeared as part of the YEAR BOOK OF GENERAL SURGERY.)



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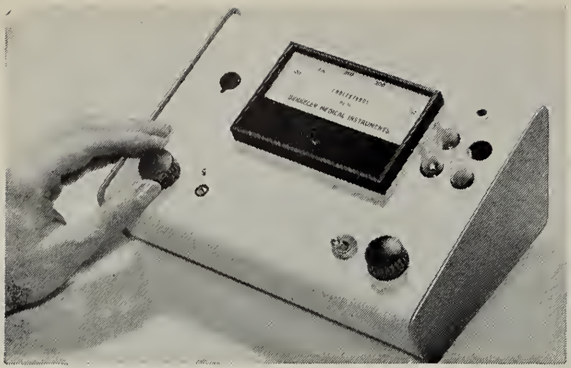

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Higher Risk Reported for Second Twin at Birth

Statistics indicate a greater birth hazard for the second born twin, according to an article in the November 30 Journal of the American Medical Association.

In all but 2 of 28 studies published from 1941 to 1963 the number of deaths for the second twin exceed those for the first born, the Journal article said.

Authors of the report were Grace Wyshak, M.S., and Colin White, M.B., Yale University School of Medicine, New Haven, Conn.

Blade and Electric Shaving Compared By Dermatologists

An electric razor leaves hair ends ragged and split while a blade razor leaves them smooth, three Boston researchers reported recently.

"The cut edges of the hair fragments were extremely ragged in the electric shavings as compared to the smoother edges of the blade shavings," they said. "Moreover, the hairs from electric shavings were oftimes partially or completely vertically split. This was never observed with blade shavings."

The report by Drs. Chetty Bhakta Viziam, Herbert Mescon and Alexander G. Matoltsy appeared in the December *Archives of Dermatology,* published by the American Medical Association.

Immediately after routine shaving, they said, there was much greater variation observed in the length of protruding hairs cut with the electric as compared with the blade razor.

"The shorter hair fragments with the electric shavings are probably due to the repeated to-and-fro movements of the electric shaving technique in which each hair is cut several times at levels progressively closer to the skin," the researchers said. "Apparently, a sharp-blade instrument cuts hair smoothly in single strokes as compared to the fracturing effect of the less sharp electric razor mechanism."

In general, the researchers said, with routine shaving, the blade method cut the hair close to the skin surface than the electric razor.

However, all shavings revealed numerous fragments of hair and skin of greatly varying shapes and sizes, they said. It was not unusual to find large skin fragments sometimes composed of as many as hundreds of cells and "resembling superficial biopsies," they said.

The conclusions were based on beard shavings from 101 shaves of 10 healthy men aged 20 to 50 using blades, safety razors and electric razors, according to the report.

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REFERENCES ON TOCOSAMINE (Sparteine Sulfate, Trent): 1. Plentl, A. A. and Friedman, E. A.: Amer. J. Obst. & Gynec. 85:200, 1963. 2. Plentl, A. A., Friedman, E. A., and Gray, M. J.: Amer. J. Obst. & Gynec. 82:1332, 1961. 3. Burke, F. W., Jones, W. J., Jr., and Lynch, J. F., Jr.: Eleventh Annual Armed Forces Obstetrics-Gynecology Seminar, October 1962. 4. Savel, L. E., Scheininger, L. M., Simon, S. R., and Roth, E.: J. Newark Beth Israel Hospital 13:184, 1962. 5. Hall, R. E.: Bull. Sloane Hospital for Women 7:55, 1961. 6. D'Esopo, D. A.: Bull. Sloane Hospital for Women 6:61, 1960. 7. Sanford, T. H.: J. Maine Med. Assn. 54:78, 1963.

LITERATURE AND ADDITIONAL REFERENCES AVAILABLE ON REQUEST

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REFERENCES AND REVIEWS

(Continued from Page 54)

without change in diet. Three deaths from arteriosclerotic heart disease occurred shortly after onset of therapy, but none thereafter. While on therapy all patients had normal lipid levels. Acanthosis nigricans was seen in four patients and disappeared promptly on discontinuation of therapy. Diabetes mellitus was temporarily aggravated in three of five patients. This medication seems singularly well-suited for a wide range study on the influence of reduction of cholesterol levels on life expectancy.

* * *

Disease of the Liver in Regional Enteritis—W. L. Palmer, J. B. Kirsner (950 E. 59th St., Chicago), B. Goldgraber, and S. Silva Fuentes. Amer. J. Med. Sci., 246:663 (Dec.) 1963.

Hepatic disease was identified in 6 of 112 patients with regional enteritis; 9 of them were deceased, necropsies having been performed in 7. Seven of the patients gave a history of antecedent parenchymal jaundice; in 3 a diagnosis of homologous serum hepatitis had been made. The changes in the liver were not specific. The role of viral hepatitis was obscure.

* * *

Use of X-rays in Detection of Calcium in Biological Tissues at Microlevel—F. Bohatirchuk (Ottawa, Ont.). Canada. Med. Ass. J., 89:1171 (Dec. 7) 1963.

By using x-rays at a microlevel (i.e., at magnifications of 300 x and more), the smallest quantities of calcium in tissues can be visualized. The method of stain historadiography described in this report permits the combined study of serial stained specimens and their historadiographs. The cutting of specimens in series not only serves to exclude artefacts but also helps to identify the calcium-containing microstructures. To some extent stain historadiography also permits evaluation of the density of calcium present in tissues.

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These facts support an affirmative answer to the diaper bleaching question.

Additional information on the germicidal qualities of liquid chlorine bleach is contained in the following studies:

McNeil, Ethel and Choper, Eva A., "The Effectiveness of Disinfectants in Home Laundering," Proceedings of the Chemical Specialties Manufacturers Association, Inc., 48th Mid-Year Meeting, May, 1962. ☐ Klein, Morton and Deforest, Adamadia, "Antiviral Action of Germicides," Soap and Chemical Specialties 39:70-72, 95-97, July, 1963. ☐ Kundsin, Ruth B., Sc.D; Walter, Carl W., M.D.; Ipsen, Johannes, M.D.; and Brubaker, Mary Day, "Ecology of Staphylococcal Disease," The Journal of the American Medical Association, July, 1963.

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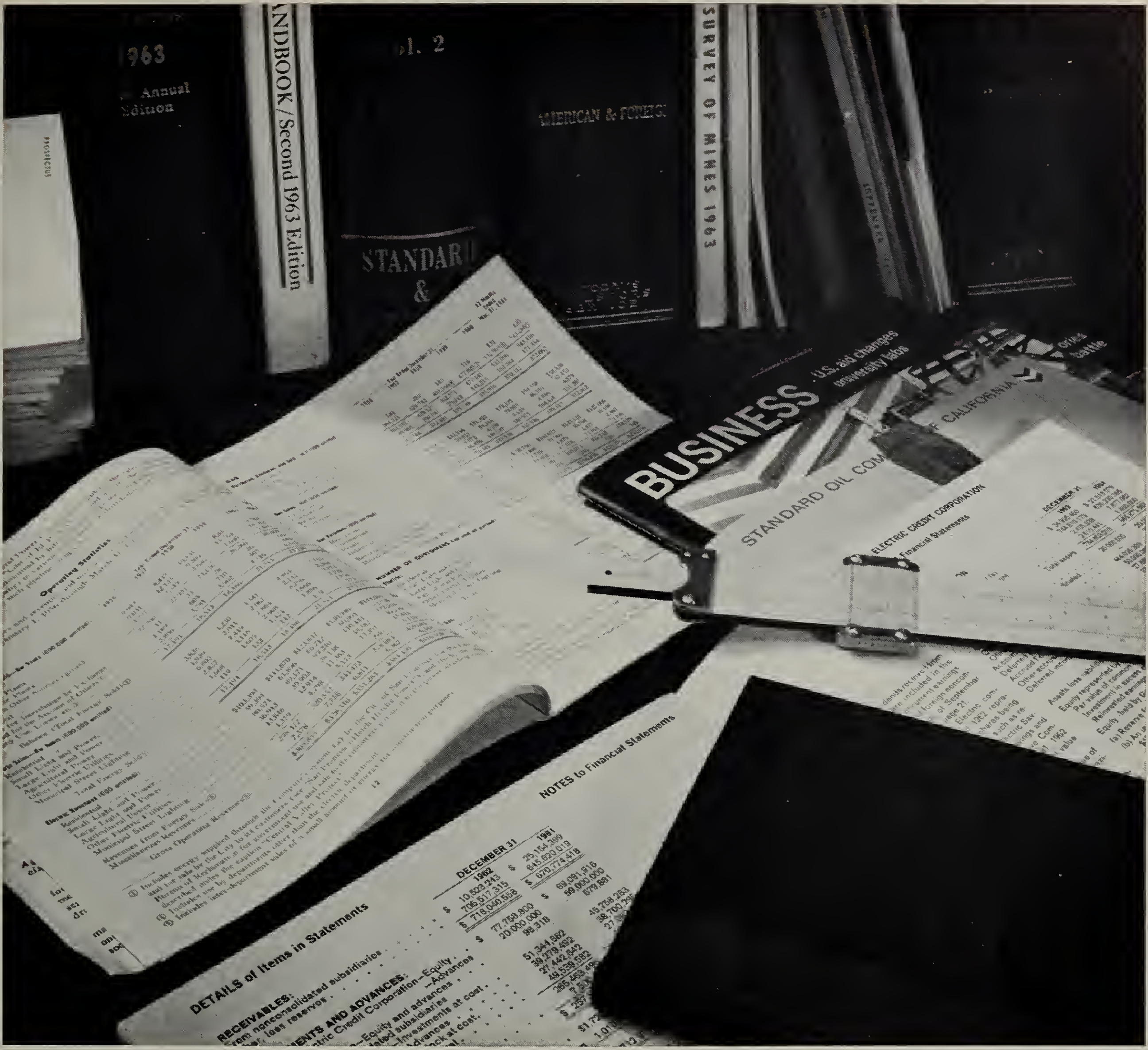
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1223 Wishon Ave., Fresno 93728
Joseph B. Ford, Jr. ....Secretary
2940 Fresno St., Fresno 93721

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730 7th St., Eureka 95501
Wells Carey..............................Secretary
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200 S. Imperial Ave., Imperial 92251

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380 N. Mt. Whitney Dr., Lone Pine 93545
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459 West Line, Bishop 93514

KERN County Medical Society, 2603 G Street, Bakersfield 93301. Meets Third Tuesday, 7:30 p.m., Society Office, 2603 G Street, except June, July, August.
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2441 "G" St., Bakersfield 93301
Keith W. Spaulding..............................Secretary
2521 "G" St., Bakersfield 93301

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Edwin E. Kerr..............................Secretary
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1054 Beard Rd., Napa 94558

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Arthur R. Weaver..............................Secretary
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4175 Brockton Ave., Riverside 92501
Richard W. Trotter..............................Secretary
4175 Brockton Ave., Riverside 92501

SACRAMENTO Society for Medical Improvement, 5380 Elvas Ave., Sacramento 95819. Meets Third Tuesday, 8:30 p.m., Sutter Hospital Auditorium.
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2615 Eye St., Sacramento 95816
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5380 Elvas Ave., Sacramento 95819

SAN BENITO County Medical Society. Meets once a month, except July and August. Time and place to be announced.
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345 5th St., Hollister 95023
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SAN BERNARDINO County Medical Society, 1875 N. D St., San Bernardino 92405. Meets First Tuesday, 7:30 p.m., Harold's Club, Fontana.
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238 N. Riverside Ave., Rialto 92376
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SAN DIEGO County Medical Society, 3427 - 4th Ave., San Diego 92103. Meets Second Tuesday. Location of meetings varies.
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SAN LUIS OBISPO County Medical Society. Meets Third Saturday, 7:00 p.m., Anderson Hotel, San Luis Obispo 93402.
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SAN MATEO County Medical Society, 122 El Camino Real, San Mateo 94401. Meets Third Tuesday.
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323 N. San Mateo Dr., San Mateo 94401

SANTA BARBARA County Medical Society, 300 W. Pueblo St., Santa Barbara 93105. Meets Second Monday of the month, University Club, 1332 Santa Barbara St., Santa Barbara.
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300 W. Pueblo St., Santa Barbara 93105
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SANTA CLARA County Medical Society, 1960 The Alameda, San Jose 95126. Meets First Monday.
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Medical Center Building, Yreka 96097

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576 B St., Santa Rosa 95401
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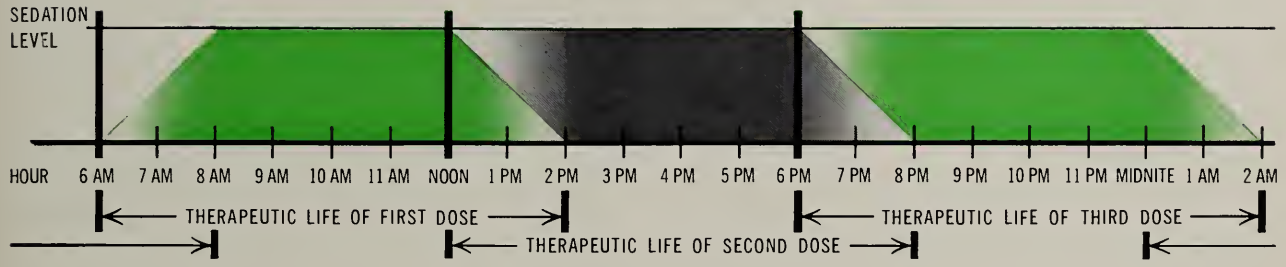

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AMA Recommends Medical Exams For Some Drivers

The American Medical Association has recommended that some applicants for driver licenses should be given medical examinations by physicians.

In a policy statement, published in the February 1 *AMA Journal,* the AMA said:

"The goal of licensing should be to license all applicants who can operate a motor vehicle with safety to themselves and others and to restrict, withdraw, or deny the license to those who present an unwarranted risk.

"There are 91,000,000 licensed drivers in the United States. To give medical examinations initially and periodically to this number *for the purpose of licensing to operate a motor vehicle* is to use medical manpower with less than optimum effectiveness."

However, believing that the recognition and appropriate handling of "driver limitation" will contribute markedly to automobile accident prevention programs, the AMA recommended examinations be conducted under these conditions:

—When a license applicant displays an obviously impaired physical function.

—When a driver has been involved in multiple accidents within a short calendar period.

—When a driver must be placed in the "assigned risk" pool for insurance underwriting because of refusal by various commercial insurance carriers to assume the risk.

—When a driver voluntarily suggests that he "blacked out" or that medical problems contributed to an accident.

The most significant medical problems which must be evaluated to determine driver limitation were listed as mental retardation, uncompensated deformities, neurological defects, cardiovascular defects, psychiatric problems, gross sensory deficits, chronic alcoholism, and drug addiction.

The AMA statement also said:

"No scientific data are available to indicate that drivers with any particular disease, including diabetes, epilepsy, color blindness, cardiovascular disease, or deafness have higher accident rates than comparable groups not having the condition. The identification of persons with certain diseases is of little value in preventing accidents.

"There are limited studies to show that certain impaired groups have fewer accidents than comparable groups without the impairment because of an awareness of the condition and compensation by the individuals involved.

"This observation tends to be borne out by the accident rates which show that the young male adult 16-25 years of age (a group with the fewest

(Continued on Page 35)

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Singoserp (syrosingopine): Use cautiously in patients with peptic ulcer. Discontinue several weeks prior to surgery, if possible.

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Rare reactions: purpura with or without thrombocytopenia, skin rash, photosensitivity, urticaria. Thiazides may decrease glucose tolerance; use cautiously in diabetics. Hyperuricemia may occur but is readily reversed by a uricosuric agent.

Occasional side effects: nitrogen retention (in hypertensive patients), nausea, anorexia, headache, restlessness, constipation.

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Tablets #2 (white), each containing 1 mg. syrosingopine and 25 mg. hydrochlorothiazide; *Tablets #1* (white), each containing 0.5 mg. syrosingopine and 25 mg. hydrochlorothiazide.

References

1. Kolodny, A. L., and Dabolins, R.: Angiology *11*:180 (June) 1960.
2. Bare, W. W.: J. Amer. Geriat. Soc. *8*:795 (Oct.) 1960.
3. Lisan, P., and Balaban, S. A.: J. Amer. Geriat. Soc. *8*:803 (Oct.) 1960.

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Preschool Child Needs Help To Adjust To Sibling Death

Parents should share their feelings of grief over the death of an infant with their surviving children so the experience will not become the focus of later emotional difficulties.

This is the opinion of Donald L. Weston, Ph.D., a psychologist, and Robert C. Irwin, M.D., a pediatrician, Baltimore, expressed in the December *American Journal of Diseases of Children,* published by the American Medical Association.

The loss of a stillborn child or the death of an infant produces a significant emotional response in all members of a family, they said. This is a particularly significant event for the siblings of the deceased child, they said, because they are intellectually and emotionally poorly equipped to resolve the loss.

The first thing a child wants to know is what happened, they said, and this can be answered realistically. Young children can understand that a child is too sick to get well or that a child's body can be hurt too badly to recover, they said. It is important in explaining to use the correct terms as this offers the child concepts which help him understand death, they said.

"The parents' ability to verbalize the reality of the loss informs the child that this event is not so overwhelming that mention of it must be avoided," the authors said.

"The statement that the sibling, by name, has died and will not be coming, or returning, to the home should not be avoided. The fact that the death represents a failure in the physical ability of the child is important in the explanation of death."

The question of "why" the sibling did not live is probably more difficult for the child—and may also be an unanswerable question for the parents, according to the authors.

"It is important that the parents realize the child's struggle for understanding and help as best they can with his feelings about the loss," they said. "It need not be frightening for the child that the parents cannot explain the 'why' of this loss. The lack of an explanation can become a part of the reality of the event."

Religious explanations are probably not adequate for the pre-school child, they added.

Telling a child about illness or accidental death raises concern about whether this could happen to him, the authors said, and this is a time for parental reassurance about the surviving child's health.

Some sibling rivalry is a part of every situation in which children lose, because of the arrival of a new baby, some of the time and attention which their mother previously had for them, the authors pointed out. These feelings may lead to anxiety about having some responsibility for the death of the child, they said.

"The preschool child is in a stage of development when omnipotence in thinking occurs and the line between feeling and causing events in reality is confused," they said. "Thus, the child may experience the loss of the sibling as the result of his feelings of envy for the time which the sibling took from the mother or his anger about the intruding child. This then arouses guilt and anxiety about

(Continued on Page 25)

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Numb Chin Syndrome Requires Checkup

Unexplained numbness of the chin and lower lip must be considered a potential indication of serious disease, two researchers report in a scientific journal of the American Medical Association.

Such numbness rarely results from a benign condition of the lower jawbone, Capt. John R. Calverley, USAF (MC) and Col. Alex M. Mohnac, USAF (DC), Lackland Air Force Base, Texas, wrote in the December *Archives of Internal Medicine.*

The authors described five patients in whom this symptom was produced by the spread of cancer to the lower jaw. In one of these patients, they said, numbness of the chin was the first symptom of a fatal malignancy. They also stressed that the symptom may be present for many months before bone changes can be seen by x-rays.

"It is evident, therefore, that the 'numb chin' must be recognized as a foreboding symptom which demands a diligent search for a primary malignancy," they said.

Preschool Child Needs Help To Adjust To Sibling Death

(Continued from Page 14)

being punished for having caused the death.

"These feelings can be helped through indicating that it was nothing which the child did, or thought, which caused the death of the sibling."

Another source of feeling which the child tries to understand is the parents' grief, according to the report.

"The parents' ability to talk about their feelings of loss, grief, anger, and disappointment helps the child to accept these feelings in himself," the authors said. "Although letting the child know their feelings, they must also indicate that they do not expect him to experience the loss in the same way as they experience it.

"Yet through parental understanding of the meaning of this event for the child the experience can be kept from becoming the focus of later emotional difficulties."

A third source of feelings that the child is subject to, is the parental response to him, the authors said.

Because of the death, the surviving child becomes a more important and valued object for the parents, they said.

"They may increase their closeness to the child in an effort to gain closeness with the lost child through this substitute object," the authors explained. "This increases the child's exposure to the parental grief and may be anxiety-arousing for the child. If there were feelings of rivalry, this closeness may confirm the surviving child's anxiety about envy being related to the death."

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Report No Link Between Thumbsucking, Smoking

A study of high school senior students indicates no relationship between their current smoking habits and infant behavior, such as thumbsucking, Dr. Eva J. Salber, Boston, reported recently.

A total of 314 pairs of students and their mothers in Newton, Mass., were interviewed to determine whether breast or bottle feeding, thumbsucking, time of weaning, or intervals between feedings were related to later smoking habits, according to a report in the February 1 *Journal of the American Medical Association.*

"There seemed to be no real difference in mothers' child-rearing behavior and their children's subsequent smoking habits," Dr. Salber concluded.

It is possible that different results might be obtained if the analysis was repeated later since many more students could be expected to begin smoking in subsequent years, she pointed out.

In addition, she said, there may not have been a sufficient incidence of breast feeding to show a later association with smoking.

According to Freud, Dr. Salber added, there is an intensification of erotic significance of the oral region in some children, and if it persists, in men it would become a powerful motive for smoking.

Dr. Salber is affiliated with Harvard University School of Public Health.

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Biochemical Defect Suspected In High Blood Pressure

A higher than normal ratio of cadmium to zinc in the kidneys may be a factor in the development of high blood pressure, according to Dr. Henry A. Schroeder, Brattleboro, Vt.

A trace metal accumulating in an organ involved in the body's metabolism may be suspected of influencing the development of an age-linked disorder, such as hypertension, Dr. Schroeder wrote in the February *Journal of the American Medical Association.* Cadmium accumulates in the kidney with age, he said.

Since there are wide geographical variations in the concentration of cadmium, data on trace metals in human tissues in 10 U.S. cities and 9 foreign countries were analyzed to determine if there was any correlation with the disease that caused death, Dr. Schroeder reported.

Mean individual ratios of cadmium to zinc were higher for persons dying of hypertension, including cerebral hemorrhage and hypertensive heart disease, than for those who died of accidents, arteriosclerotic heart disease, other cardiovascular diseases, or, in foreign subjects, malignant disease and chronic infections, the study showed.

"These results indicate that an elevated ratio of renal cadmium to zinc is found more frequently in persons dying of hypertensive causes than in persons dying of other major causes, and that this characteristic is usually, but not always, diagnostic of hypertension," Dr. Schroeder concluded. "That it occurs in subjects from several areas of the world whose mean renal cadmium differs, suggests that this alteration may act as an accessory factor in pathogenesis."

Because cadmium is believed to have a tendency to replace zinc, he added, a biochemical defect of the kidney contributing to high blood pressure may exist in those persons in whom the cadmium zinc ratio is disturbed.

Dr. Schroeder is affiliated with the department of physiology Dartmouth Medical School, Hanover, N.H., and Brattleboro Retreat.

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Under the pressure of modern living, with its "small continued anxieties of life,"[6] functional disturbances of secretion, tone and motility of the gastrointestinal tract are extremely common.[6,8] For the relief of symptoms associated with such disturbances—through rest for the patient, rest for the colon[3]—the drugs of greatest value have proved to be the antispasmodics and the sedatives.[3,6,7]

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INDICATIONS: DONNATAL is indicated in recurring, persistent or chronic visceral spasm, as in peptic ulcer, pylorospasm, irritable stomach and colon, motion sickness, nocturnal enuresis, mucous colitis and diarrhea.

SIDE EFFECTS: No serious toxic reactions are to be expected. Dryness of the mouth, blurred vision, difficult urination, and flushing and dryness of the skin may occur with excessive and prolonged dosage.

PRECAUTIONS: Patients with incipient glaucoma or urinary bladder neck obstruction must be treated with care, as with any preparation containing a parasympathetic depressant.

CONTRAINDICATIONS: DONNATAL is contraindicated in acute glaucoma, advanced hepatic or renal disease, and known or suspected idiosyncrasy to any of its components.

REFERENCES:
1. Asher, L.M.: Am. J. Digest. Dis. 4:260, 1959.
2. Barden, F.W., Hill, P.S., Mahaney, W.F., and Cuneo, K.J.: J. Maine M.A. 45:11, 1954.
3. Donovan, E.J.: Rocky Mt. M.J. 50:952, 1953.
4. Hock, C.W.: Clinical Med. 8:1932, 1961.
5. Marks, L.: Am. J. Gastroenterol. 27:180, 1957.
6. Palmer, W.L., and Kirsner, J.B.: Therapeutics in Internal Medicine, 2nd ed., F. A. Kyser, ed., Hoeber, New York, 1953, p. 368.
7. Watts, M.S.M., and Wilbur, D.L.: J.A.M.A. 152:1192, 1953.
8. Wharton, G.K., Balfour, D.C., Jr., and Osmon, K.I.: Postgrad. Med. 21:406, 1957.

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Vaccine Seen Possible for Eaton Agent Pneumonia

The possibility of developing a vaccine to prevent one type of pneumonia was raised recently by researchers at the National Institutes of Health, Bethesda, Md.

Preliminary work which might lead to a vaccine against primary atypical pneumonia caused by Eaton agent was reported by Drs. R. B. Couch, T. R. Cate and R. M. Chanock in the February 8 *Journal of the American Medical Association.*

Primary atypical pneumonia is an acute respiratory infection characterized by lung abnormalities, constitutional symptoms, and prolonged convalescence.

Eaton agent, discovered in 1944, later was found to be one of the important causes of atypical pneumonia. Suspected of being a virus, it recently was definitely established to be a bacterium, a pleuropneumonia-like organism, and renamed mycoplasma pneumoniae.

In studies with adult healthy men from federal correctional institutions, the NIH researchers found that M pneumoniae grown on an artificial cell-free medium could infect man and stimulate protective antibodies.

No pneumonia occurred among volunteers who were infected with the bacterium in the nose and mouth by means of a coarse-spray hand nebulizer.

These studies indicate that it may be possible to develop suitable attenuated strains of M pneumoniae for use in a vaccine to prevent naturally occurring human atypical pneumonia, the researchers concluded.

The levels of antibody achieved by these men were comparable to those which have been shown to protect against the occurrence of pneumonia after natural infection or experimental challenge, they pointed out.

Of 42 volunteers inoculated, 38, or 90 per cent, developed significant antibody 4 to 10 weeks later, according to the report. Two strains of the bacterium with varying virulence were used, the researchers said, and the most virulent strain produced a greater antibody response. However, they said, 85 per cent of the volunteers who received the less virulent strain eventually developed significant antibody.

The study, compared with results of an earlier investigation, also indicated that cultivation of the organism on a cell-free medium reduced its virulence for man.

A previous study showed that M pneumoniae grown on a tissue culture could infect volunteers but these men developed pneumonia and fever-associated illnesses.

While fever-associated illnesses occurred after inoculation of volunteers with M pneumoniae grown on a cell-free medium, they occurred less

Recent reports suggest...insulin and sulfonylureas may accelerate lipogenesis,[1-5]...serum "insulin" levels are often elevated in obese diabetics[2,3,6]...DBI (phenformin HCl) reduces high blood sugars, lowers elevated "insulin" levels, tends to reduce body weight toward normal.[1,3,7-9]

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In the ketoacidosis-resistant obese diabetic not amenable to diet alone, hypoglycemic DBI (phenformin HCl) appears to help avoid weight gain or reduce adiposity, factors which otherwise tend to make blood sugar control more difficult and to increase the likelihood of complications. However, in the ketoacidosis-prone diabetic, insulin is still the essential hypoglycemic agent.

Summary: Indicated in stable adult diabetes, sulfonylurea failures and unstable diabetes. Gastrointestinal side effects occurring more often at higher dosage levels abate promptly upon dosage reduction or temporary withdrawal. Occasionally an insulin-dependent patient will show "starvation" ketosis (acetonuria without hyperglycemia) which must be differentiated from "insulin-lack" ketosis, and treated accordingly. Use with caution in severe liver disease. Not recommended without insulin in acute complications (acidosis, coma, infections, gangrene, surgery). Consult product brochure for full information.

Bibliography: 1. Williams, R. H.: Textbook of Endocrinology, Ed. 3, Saunders, Philadelphia, 1962, p. 610. 2. Gordon, E. S.: Metabolism 11:819, 1962. 3. Grodsky, G. M. et al.: Metabolism 12:278, 1963. 4. Sadow, H. S.: Metabolism 12:333, 1963. 5. West, K. M. and Tophoj, E.: Metabolism 10:689, 1961. 6. Yalow, R. S. and Berson, S. A.: Diabetes 9:254, 1960. 7. Weller, C. et al.: Scientific Exhibit, A.M.A., June 1962. 8. Weller, C. et al.: Metabolism 11:1134, 1962. 9. Radding, R. S. et al.: Metabolism 11:404, 1962.

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frequently and were less severe than in the previous study and no pneumonia occurred, the researchers reported.

It was also pointed out that a vaccine has been developed against pleuropneumonia occurring in cattle which is caused by a similar organism, mycoplasma mycoides.

"Pep Pill" Danger Said Underrated

The present estimate of the lethal dose of amphetamines, commonly called "pep pills," should be revised downward, two physicians warned recently.

The recommendation was coupled with the 10th report of a death from an overdose of amphetamines to appear in the medical literature during the past 25 years.

The death of a 23-year-old man who ingested 140 milligrams of methamphetamine hydrochloride was reported by Capt. Edwin G. Zalis, MC, USA, and Col. Loren F. Parmley, Jr., MC, USA, Letterman General Hospital, San Francisco, in the December *Archives of Internal Medicine,* published by the American Medical Association.

"This experience, as well as the other reported fatal cases of amphetamine toxicity, indicates that the present estimate of the lethal dose of these drugs should be revised downward, for amphetamine may be a potentially fatal poison even when taken in relatively small doses," they said.

In the latest case, the patient took 28, 5 mg tablets five hours before being found unconscious and died on the fifth day of hospitalization, physicians said.

The acute lethal dose of amphetamine in the adult has been stated to be 25 to 25 mg per kilogram (2.2 pounds) of body weight, they said. However, they said, in this case the fatal dose was only 140 mg or less than 1.5 mg per kilogram.

"There is an apparent individual susceptibility to these drugs since dosages of 250 mg and possibly as high as 800 mg have been ingested without significant untoward effects," they added. "Review of the nine previously reported fatal amphetamine ingestions reveals considerable variability in dose, and in no instance did the acute lethal dose approach 20 mg/kg."

AMA Recommends Medical Exams For Some Drivers

(Continued from Page 10)

physical impairments) has the highest incidence of accidents. Lack of mature judgment seems to be the critical factor."

The statement, prepared by the AMA Committee on Medical Aspects of Automotive Safety, was adopted by the AMA House of Delegates, meeting in Portland, Ore., in December.

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Nonspecific Anti-Inflammatory Agents

Some Notes on Their Practical Application, Especially in Rheumatic Disorders

EDWARD W. BOLAND, *M.D.*, Los Angeles

• A number of acute and chronic inflammatory disorders are amenable to varying degrees of therapeutic control with the administration of nonspecific anti-inflammatory drugs. An evaluation of these suppressive agents in the field of rheumatic diseases and practical suggestions regarding their administration are presented.

Eight synthetically modified corticosteroid compounds are available commercially. Each of them exhibits qualitative differences in one or several physiologic actions, each has certain advantages and disadvantages in therapy, and each shares the major deterrent features of corticosteroids. Prednisone, prednisolone, methylprednisolone, fluprednisolone and paramethasone have similar therapeutic indices, and there is little choice between them for the usual rheumatoid patient requiring steroid therapy. Conversely, the therapeutic indices of dexamethasone, betamethasone and triamcinolone are lower than that of prednisolone; they are less desirable for routine use and should be reserved for specially selected cases.

Salicylates are preferred to adrenocortical steroids in the treatment of the ordinary patient with acute rheumatic fever. Steroid therapy should be reserved for resistant cases and for those with significant carditis. Salicylates are mainstays for pain relief in rheumatoid arthritis, but with the analgesic doses usually employed their anti-inflammatory action is slight.

Phenylbutazone is a highly useful anti-inflammatory agent, especially in management of acute gouty arthritis and ankylosing (rheumatoid) spondylitis; its metabolite, oxyphenylbutazone, does not exhibit clear-cut advantages.

Colchicine specifically suppresses acute gouty arthritis. Its analogues, desacetylcolchicine and desacetylthiocolchicine, produce fewer unpleasant gastrointestinal symptoms, but may promote agranulocytosis and alopecia.

A number of indole preparations with anti-inflammatory activity have been tested clinically. One of them, indomethacin, has received extensive therapeutic trial; with dosages that can be tolerated the drug is fairly effective in the symptomatic control of ankylosing (rheumatoid) spondylitis but it is of questionable value in peripheral rheumatoid arthritis.

MANY DISEASES of obscure cause are characterized by acute or chronic inflammation reactions, and therapeutic control of them is dependent on the administration of certain hormonal and nonhormonal agents that have the capacity to suppress inflammation in a nonspecific fashion. Among the anti-inflammatory drugs now available to the physician may be listed hydrocortisone and cortisone and their synthetic derivatives, corticotropin, phenylbutazone and its analogues, as well as salicylates and colchicine. Ad-

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From the Department of Medicine, University of Southern California School of Medicine, and St. Vincent's Hospital, Los Angeles.

Presented as part of the program, C.M.A. Spotlight on Medicine, 1963, at the Third General Meeting at the 92nd Annual Session of the California Medical Association, Los Angeles, March 24-27, 1963.

ditionally, several indole preparations have anti-inflammatory properties and are under clinical investigation. An attempt will be made herein to review certain general considerations pertaining to the therapeutic application of these compounds, especially in the field of rheumatic diseases.

ADRENOCORTICAL STEROIDS AND THEIR SYNTHETIC ANALOGUES

The adrenocortical steroids and their synthetic analogues are, of course, the most potent antiphlogistic agents now available. An enormous amount of basic research has been accomplished with them during the past 14 years, yet the physiologic mechanisms by which they suppress inflammatory processes are not fully understood. It would appear that the collagen disorders and a number of other conditions responsive to steroids may represent hypersensitivity reactions of connective tissue and that the steroids or their metabolites operating at the tissue level inhibit such excessive reactivity. Whether their influence is exerted by interfering with antigen-antibody mechanisms, by blocking tissue enzyme systems, by interrupting histamine metabolism, by modifying cellular permeability, or by counteracting a "mineralo-corticoid" type of response remain a matter of theoretical consideration.

Irrespective of theoretical speculations, a number of practical considerations are germane in the therapeutic application of anti-inflammatory steroids: (1) Their influence is not specific against any one disease or group of diseases. Any specificity they possess is against some yet unidentified factor common to a number of disease states. (2) They do not destroy pathogenic organisms or directly antagonize toxins, allergens or other noxious agents. Rather, their benefits seem to depend on an ability to modify tissue reactions to adverse stimuli. (3) Their action is not curative, but in responsive self-limited conditions they may restrain pathologic processes while the disease runs its course or undergoes remission. (4) Most of their effects, favorable and unfavorable, are temporary. In chronic diseases such as rheumatoid arthritis, for example, therapeutic benefits depend, therefore, on more or less continuous administration. (5) Even with continued treatment, successful control of chronic inflammatory or allergic manifestations may not be preserved indefinitely because some patients become relatively refractory to the drugs after they have been used for extended periods. (6) Steroid therapy frequently fails to halt progression of the disease process itself even while symptomatic relief and increased functional capacity are being maintained. (7) Each of the available anti-inflammatory steroids promotes, in addition to its antirheumatic effect, a variety of other physiologic actions. Many of these are undesirable, producing unwanted reactions, sometimes dangerous complications, which serve as obstacles to successful management. (8) A number of pathologic conditions may be aggravated by steroid administration, and when these coexist they set up relative or absolute contraindications for treatment. (9) Protracted use of them causes functional depression of the patient's adrenal cortices—and, although reversible, this creates a potential hazard that requires the application of special protective measures during periods of extraordinary stress.

Thus, it is obvious that the adrenal cortical hormones have many shortcomings as suppressive agents for chronic inflammatory diseases. But they also have distinct attributes and constitute the only therapeutic weapons now available that have the capacity to inhibit rapidly the signs and symptoms of certain inflammatory disorders. When properly prescribed, they allow rehabilitation for useful occupation in a high proportion of patients with rheumatoid arthritis and related collagen diseases; and in many such patients successful control cannot be accomplished by other existing means.

The principles that govern systemic steroid administration vary with the nature and severity of the disease concerned. In acute, self-limited conditions such as rheumatic fever, for example, large doses are necessary for the suppression of the inflammatory process; but the hazards are not great because treatment is for a relatively short period. Again, during crises of disseminated lupus erythematosus, massive doses may be required; but these may be life-saving and the risks from the drug may be distinctly less than the risk of uncontrolled disease. The many ramifications of steroid therapy cannot be discussed in this short communication, so my remarks will be confined to prolonged uninterrupted therapy in chronic disorders such as rheumatoid arthritis.

The basic policy should be to promote and sustain a degree of disease suppression which is optimal for the individual patient—that is, to provide improvement with dosages that are consistent with the avoidance of significant hormonal complications. A number of lessons gained from experience and which may serve as helpful guides may be enumerated as follows:

1. Satisfactory improvement cannot be expected for all patients. The dosage requirements for adequate control are often larger than can be tolerated, especially when the disease is severe or very active. In such circumstances patients must settle for results which, although worthwhile, are less than desired.

2. Complete inhibition of the disease should not be sought—rather, both the patient and the physi-

cian must be satisfied with the improvement which can be obtained with so-called safe dosage levels.

3. Initial doses should not be too large or continued too long. The achievement of rheumatic control in a leisurely fashion, with dosages close to the estimated maintenance level, will often prevent unwanted reactions from the beginning. It is better to avoid the drama from early "overcharging" than to struggle with complications thereafter.

4. Reductions from initial suppressive to smaller maintenance doses should be made slowly, and by small decrements. Sudden reductions in dosage often result in loss of clinical control.

5. Dosage should be determined principally on the basis of clinical improvement and the occurrence of undesirable side-effects. The erythrocyte sedimentation rate and other laboratory tests are not reliable gauges.

6. Maintenance doses, once established, should be considered as relative, not fixed. Disease activity may wax and wane, and dosages must be altered accordingly. Adjustments of dosage should be made by small changes, not by large or erratic swings in dosage.

7. Maintenance requirements vary in individual cases, but the amounts needed depend more on the activity of the process and on the physical or emotional stress to which the patient is subjected than on other factors. Successful management may depend as much on proper regulation of the patient's activities as on proper manipulation of medication.

8. Steroids should be prescribed in divided doses because available preparations are absorbed quickly and the effects dissipated rapidly. Proper division of dosage such as two to four times a day (following meals and at bedtime) provides more even control and minimizes the total daily requirement.

9. Some patients who have been well controlled for prolonged periods may eventually become relatively refractory; improvement may deteriorate despite increasing and finally prohibitive amounts of steroid. In such instances responsiveness may return if the drug is gradually withdrawn and a treatment-free period of two or three months is allowed.

10. When, for any reason, steroid therapy is discontinued, the dosage should be tapered off slowly to prevent withdrawal symptoms (such as weakness, fatigue, lowered resistance to stress, sudden flare-up of joint inflammation, etc.). Generally it is best to gradually wean the patient from treatment over a period of two to three months.

The results of hydrocortisone therapy in a group of 150 rheumatoid patients treated continuously for two years or more were compiled in 1954.[1] Although far better than in the presteroid era, the overall results left much to be desired. Less than 60 per cent of cases were considered adequately controlled at the end of two years, and the proportion decreased to approximately 50 per cent at the end of three years. As might be expected, results were poorest among patients with more severe disease whose dosage requirements for good control were greater than could be tolerated, and statistically the improvement status tended to deteriorate as treatment was prolonged. The major deterrent to more successful management was the development of unwanted side-effects from the hormone, the appearance of which necessitated dosage restriction to suboptimally effective levels.

The obvious limitations of hydrocortisone and cortisone as treatment agents led chemists and clinicians to search for more efficient antiphlogistic drugs. Since 1953, the molecular structure of the natural hormones has been modified in many ways with the hope of fabricating artificial steroids which would possess higher therapeutic indices. That steroids with superior effectiveness might be synthesized was suggested by the knowledge that various modifications in chemical structure were capable of altering anti-inflammatory potency of cortisone and hydrocortisone and, more importantly, that certain chemical changes could selectively amplify or attenuate one or more of those accessory biologic properties that create unwanted and impeding side-effects.

Some of the ingenious chemical changes that have been made and which have led to the development of compounds of direct or indirect therapeutic interest are shown in Figure 1. They are: Fluorination at C-9 and at C-6; dehydrogenation at C-1—C-2 and at C-6—C-7; methylation at C-2, at C-6, and C-16, and C-21; dehydrogenation at C-21; hydroxylation at C-16; and desoxygenation at C-21. Many analogues have been fashioned by making one or more of these changes. We have tested the effectiveness of 33 different steroid compounds during the past ten years, and eight of these compounds have been made avail-

TABLE 1.—*Analogues of Hydrocortisone and Cortisone Available Commercially*

	Potency Times Prednisolone (Av.)	Prudent Dosage Range (MG Per Day)
Prednisone (Meticorten)	1.0	2.5-10.0
Prednisolone (Meticortelone)	1.0	2.5-10.0
Methylprednisolone (Medrol)	1.2	2.0- 8.0
Triamcinolone (Aristocort: Kenacort)	1.2	2.0- 8.0
Dexamethasone (Decadron: Deronil)	7.0	0.5- 1.5
Betamethasone (Celestone)	7.0	0.5- 1.5
Fluprednisolone (Alphadrol)	2.5	2.5- 5.0
Paramethasone (Haldrone)	2.5	2.0- 5.0

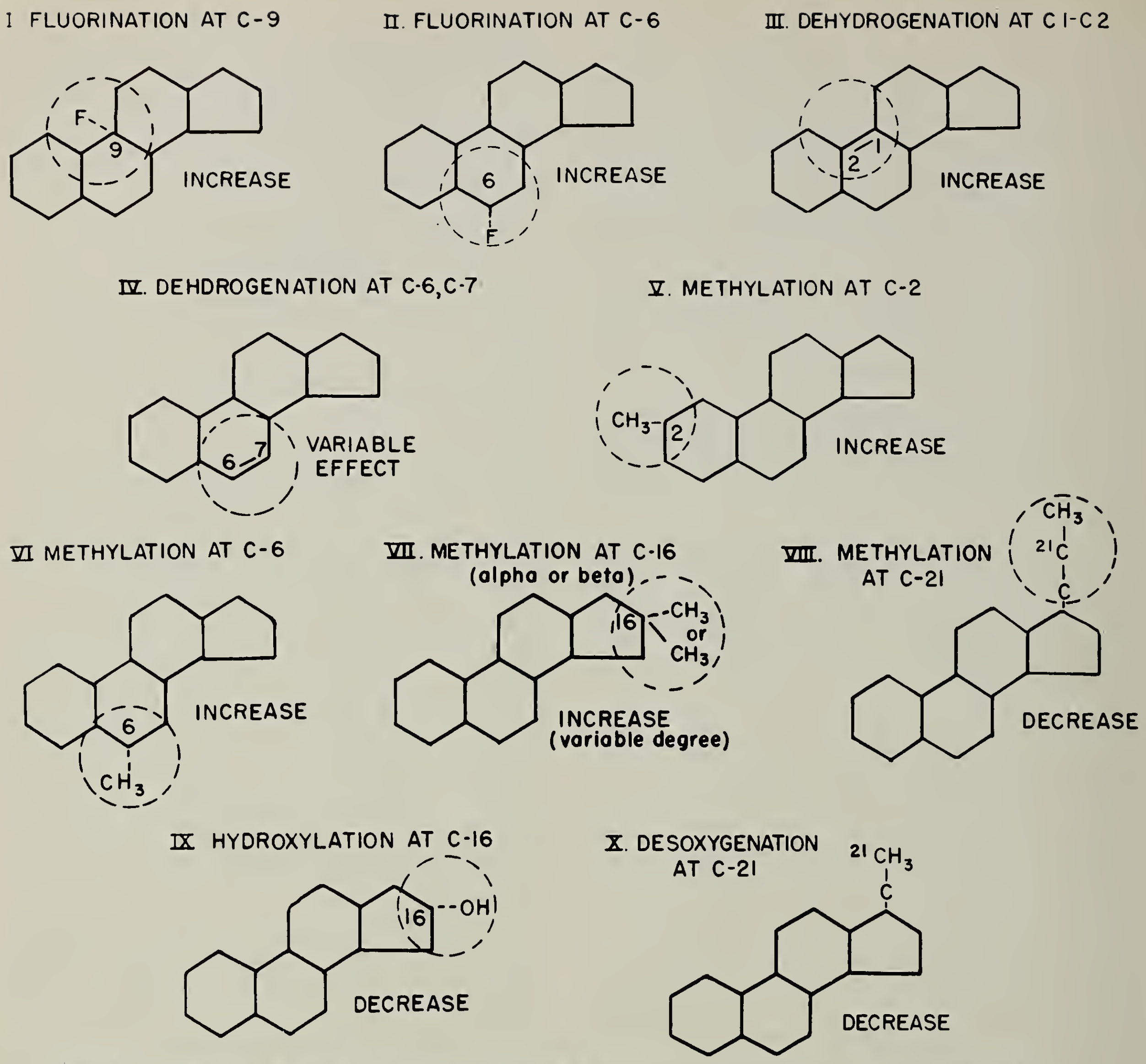

I FLUORINATION AT C-9
F
9
INCREASE
II. FLUORINATION AT C-6
6
F
INCREASE
III. DEHYDROGENATION AT C1-C2
1
2
INCREASE
IV. DEHDROGENATION AT C-6,C-7
6
7
VARIABLE EFFECT
V. METHYLATION AT C-2
CH3
2
INCREASE
VI METHYLATION AT C-6
6
CH3
INCREASE
VII. METHYLATION AT C-16 (alpha or beta)
16
CH3 or CH3
INCREASE (variable degree)
VIII. METHYLATION AT C-21
CH3
21C
C
DECREASE
IX HYDROXYLATION AT C-16
16
OH
DECREASE
X. DESOXYGENATION AT C-21
21 CH3
C
DECREASE

Figure 1.—Influence of certain individual structural alterations on antirheumatic potency (general).

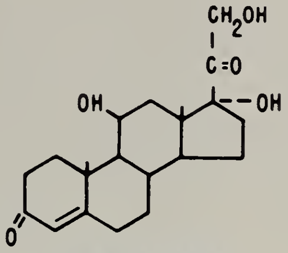
able commercially. In general, each of them promotes a similar pattern of improvement when given in doses of comparable antirheumatic potency. They differ in antirheumatic activity, and they display qualitative differences in one or several physiologic properties. But no one preparation exhibits consistent advantages, and none is divested of the major inherent limitations of corticosteroid therapy. (See Figure 2.)

The compounds which have been marketed and their relative antirheumatic strengths per milligram are shown in Table 1. The potencies of prednisone and prednisolone are similar and, on average, are approximately four times greater than hydrocortisone. Methylprednisolone and triamcinolone are approximately 20 per cent more potent than prednisolone, and the strengths of dexamethasone and betamethasone are about seven times greater. Fluprednisolone and paramethasone occupy intermediate positions, having potencies that are roughly two and one half times greater than that of prednisolone.[2]

But antirheumatic potency is not synonymous with therapeutic efficiency. This depends on the maintenance of adequate improvement in relation to the development of undesirable effects and complications, not on the number of milligrams required per day. Hence a word is in order regarding the relative merits of each of these steroids, based on long-term treatment studies.[3]

Prednisolone and Prednisone: These analogues differ from hydrocortisone and cortisone, respectively, by the presence of a double bond between the first and second carbon positions. This change enhances anti-inflammatory potency and glycogen deposition without causing a corresponding increase in electrolyte activity. Of interest is the fact that each synthetic analogue that has been marketed has contained this modification.

Our observations with prednisone and prednisolone in a series of 400 rheumatoid patients treated over a five-year period indicate that their therapeutic indices are greater than those of the parent compounds. Their antirheumatic potency per milligram is approximately four times greater than that of hy-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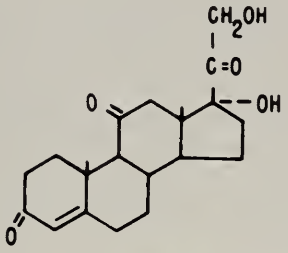
C=O
OH
OH
O

HYDROCORTISONE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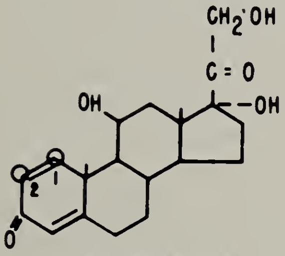
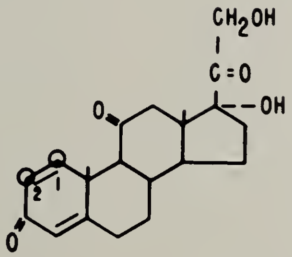
OH
O

CORTISONE


CH2OH
C = O
OH
OH
2
1
O

PREDNISOLONE

(Δ' - hydrocortisone)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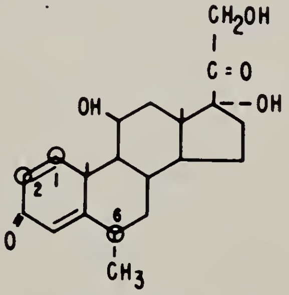
O
OH
2
1
O

PREDNISONE

(Δ'-cortisone)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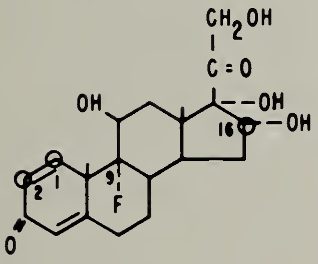
C = O
OH
OH
2
1
6
O
CH3

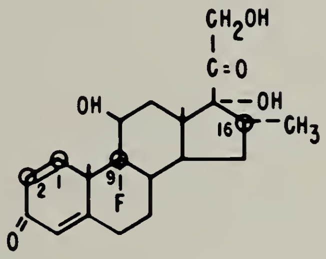
METHYL PREDNISOLONE

(6a - methylprednisolone)


CH2OH
C = O
OH
OH
16
OH
2
1
9
F
O

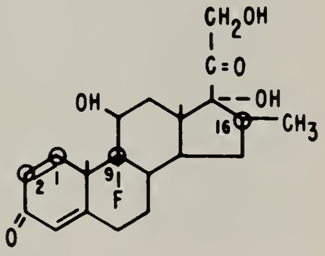
TRIAMCINOLONE

(16a - hydroxy, 9a fluoroprednisolone)


CH2OH
C=O
OH
OH
16
CH3
2
1
9
F
O

DEXAMETHASONE

(16a - methyl, 9a fluoroprednisolone)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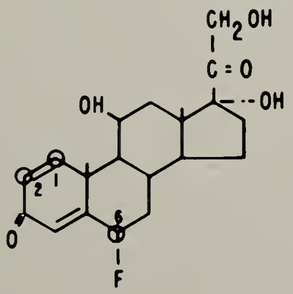
C=O
OH
OH
16
CH3
2
1
9
F
O

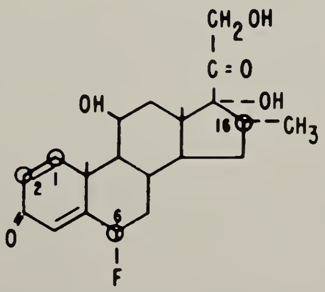
BETAMETHASONE

(16b - methyl, 9a fluoroprednisolone)


CH2OH
C = O
OH
OH
2
1
6
O
F

FLUPREDNISOLONE

(6a - fluoroprednisolone)


CH2OH
C = O
OH
OH
16
CH3
2
1
6
O
F

PARAMETHASONE

(16a - methyl, 6a fluoroprednisolone)

Figure 2.—Chemically modified adrenocortical steroids of therapeutic interest for systemic administration.

drocortisone, and, accordingly, substantially smaller milligram dosages are required. It has been clearly demonstrated that prednisone and prednisolone are capable of maintaining satisfactory response among patients who are amenable to hydrocortisone therapy. Furthermore, a substantial number of patients in whom improvement had deteriorated during hydrocortisone therapy regained and maintained adequate improvement status after a switch was made to prednisolone. The attainment of higher levels of improvement with the analogues can be attributed in many, but not all patients, to the fact that an absence of salt and water retention permits the use of more effective doses.

Prednisone and prednisolone differ from hydrocortisone in their proclivity for individual unwanted effects. The incidence of salt and water retention and raised blood pressure are distinctly less. Conversely, digestive complaints, peptic ulcers, vasomotor symptoms, and cutaneous ecchymoses develop more frequently. Other undesirable reactions, such as facial mooning, fat pads, nervous excitation, hypertrichosis, acne, skin tags, disturbances in glucose tolerance and osteoporosis, seem to appear with similar frequency when comparable antirheumatic doses are prescribed. It has been shown that the incidence of digestive complaints and of roentgenographically identified ulcers is substantially reduced when nonabsorbable antacids are taken with each dose of the drugs, and with combined administration the incidences are then no greater than during hydrocortisone administration.

Like most investigators, we prefer prednisone or prednisolone to hydrocortisone and cortisone for rheumatoid patients requiring steroid therapy. The reasons for this choice are their lower tendency to produce salt and water retention and potassium loss, their ability to restore improvement in a significant percentage of patients after improvement from hydrocortisone has deteriorated, and the better statistical results on long-term administration.

Methylprednisolone: In 1955 a series of steroids containing a methyl grouping at the sixth carbon atom were synthesized. The substitution was found to potentiate anti-inflammatory activity as measured by the granuloma pouch technique and without increasing electrolyte activity. One of these compounds, 6-methylprednisolone, was subsequently introduced commercially. Its structure differs from prednisolone only by the presence of a methyl radical at C-6.

During 1956 and 1957, in collaboration with Doctor Grant Liddle of Vanderbilt University, we appraised the metabolic and antirheumatic effects of methylprednisolone. Our conclusions were that the analogue was a satisfactory antirheumatic agent, but that it did not exhibit clear-cut advantages or disadvantages over prednisolone. Its antirheumatic potency is approximately 20 per cent greater than that of prednisolone, and therefore proportionately smaller milligram doses are required. However, when equivalently potent doses of the two drugs are given, clinical improvement is upheld equally well on long-term administration, and the unwanted reductions that intrude are similar in kind and degree.

Triamcinolone: In 1956 another series of compounds were introduced, and these contained a hydroxyl group at the sixteenth carbon position. This modification lessened anti-inflammatory potency but reduced electrolyte activity much more drastically. Importantly, it eliminated the severe sodium retention that results from adding a fluorine atom at C-9 and allowed 9-fluorinated compounds to be used therapeutically for the first time. Triamcinolone is a complex steroid which differs chemically from prednisolone in two details: the addition of an hydroxyl radical at C-16 and of a fluorine atom at C-9.

On a weight for weight basis, the antirheumatic potency of triamcinolone is somewhat greater (about 20 per cent, on average) than the potency of prednisolone, and is about equal to that of methylprednisolone. At dosage levels up to 12 mg a day, the compound does not cause sodium retention—in fact, it may induce sodium and water diuresis. Edema of even a slight degree is rarely seen—and the drug does not tend to produce or aggravate arterial hypertension. It has less tendency than other steroid preparations to appetite stimulation, and it frequently causes anorexia and loss of weight.

In our experience, the proportion of patients who are maintained satisfactorily for long periods on triamcinolone is distinctly smaller than with prednisolone and methylprednisolone. This is due principally to the fact that troublesome side-effects peculiar to the drug frequently intrude during the course of treatment and make the transfer to another steroid necessary or prudent. Actually it was found advisable to discontinue triamcinolone in approximately 25 per cent of our patients who received the drug as initial treatment and in over 30 per cent of those who were switched to it from prednisolone. Among the unique unwanted effects of triamcinolone are anorexia, loss of weight (sometimes with notable wasting of subcutaneous and muscle tissue), muscle weakness, leg cramps, nausea, cutaneous erythema, dryness and burning sensations, generalized fatigue, and dizziness. The occurrence rates for some of these have been considerable: Anorexia in 10 per cent, muscle weakness in 16 per cent, and pronounced loss of weight in 18 per cent. These peculiar effects have been troublesome enough to discourage routine use of triamcinolone for rheumatoid patients requiring steroid therapy. In our opinion, the drug may be employed to best advantage as a "special purpose" steroid. It should be reserved for selected situations, such as when salt and water retention develops from other steroids or from cardiac decompensation, or when excessive appetite and weight gain are problems in management.

Dexamethasone and Betamethasone: In 1958 a family of analogues containing in common a methyl grouping at C-16 was synthesized. This substitution, like 16-hydroxylation, decidedly reduces the salt retaining property of 9-fluorinated compounds; but, unlike 16-hydroxylation, the methyl substitution does not reduce anti-inflammatory potency. Dexamethasone differs from prednisolone by the presence of a methyl group at C-16 and a fluorine at C-9. The methyl group is attached at the alpha position of C-16; a point is made of this because subsequently another steroid, betamethasone, was introduced which has the grouping placed at the beta position. Despite claims to the contrary, betamethasone does not, in our clinical experience, differ significantly in any respect from dexamethasone.

Dexamethasone is approximately seven times as potent as prednisolone in anti-inflammatory activity and is effective in remarkably small milligram doses —amounts ranging from 0.5 to 1.5 mg a day.

The overall incidence of adverse reactions from the drug is considerably higher than from prednisolone, and certain unwanted effects are frequent and troublesome. The drug is more inclined than prednisolone to cause excessive appetite, excessive gain in weight, increased abdominal girth, abdominal bloating and distention, ecchymotic skin lesions and thinning of the skin. These unwanted effects were sufficiently pronounced to warrant switching to another steroid in over one-third of our patients.

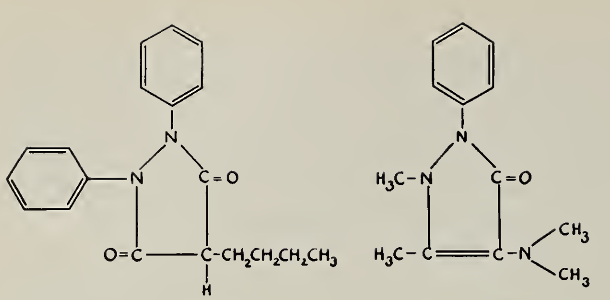
Although dexamethasone has greater biologic potency than prednisolone, our observations made during the past five years have led us to the conclusion that its general therapeutic efficiency is distinctly less than that of prednisolone and methylprednisolone. We do not employ it as a general purpose steroid, but, instead, restrict its use to a very few special situations—as when refractoriness may prompt a change of medication to another steroid or when appetite stimulation and weight gain are desired and cannot be obtained with other compounds.

Fluprednisolone: In 1958 a number of compounds containing 6-fluoro substitutions were synthesized. This modification intensifies anti-inflammatory activity, but unlike 9-fluorination it does not disturb electrolyte metabolism. One of these compounds, fluprednisolone, has antirheumatic activity which is approximately two and a half times greater than that of prednisolone. With maintenance dosages ranging from 2 to 5 mg a day, the steroid has proved to be a satisfactory antirheumatic agent. Its therapeutic index is at least equal to that of prednisolone: It appears to have even less proclivity for salt and water retention, and perhaps has slightly less tendency to promote appetite stimulation, weight gain and abnormal fat deposition.

Paramethasone: Paramethasone is the last synthetic analogue that has been marketed. It differs chemically from fluprednisolone only by the addition of a methyl radical at C-16. Paramethasone is slightly more potent than fluprednisolone, but otherwise its effects are similar. In our experience it appears to have a slightly greater tendency than fluprednisolone or prednisolone to bring about weight gain and abnormal fat deposition.

In summary, our experience with the eight antirheumatic modified corticosteroid analogues now available would indicate that none of them satisfies the criteria for an ideal suppressive agent for rheumatoid arthritis and other steroid-responsive conditions. Some of the compounds exhibit qualitative differences in one or another physiological action, but the major deterrent features of corticosteroids are shared by each of them. Prednisone, prednisolone, methylprednisolone, fluprednisolone, and paramethasone seem to have similar therapeutic indices; and there appears to be little to choose between them for the ordinary patient who requires steroid therapy. Conversely, because they produce unique reactions of their own and because they have greater proclivity to promote certain troublesome hormonal side-effects, the therapeutic indices of dexamethasone, betamethasone, and triamcinolone are lower than that of prednisolone; they are less desirable for routine use and are best employed for selected cases as "special purpose" steroids.

Most adverse reactions (weight gain, abnormal fat deposits, hypertrichosis, and the like) are avoided or kept to within acceptable degrees by using minimally effective dosages, and in rheumatoid arthritis we rarely exceed 5.0 mg of prednisolone a day in moderate cases, 7.5 mg in moderately severe cases or 10.0 mg in severe cases. The appearance of edema is usually readily controlled by dietary sodium restriction or administration of chlorothiazide. Digestive complications usually can be avoided by giving the drugs after meals and combined with nonabsorbable alkalis. Symptoms of hypokalemia (weakness, fatigue, mental aberrations) are rarely encountered and may be combated by the administration of potassium salts in dosages of 3 to 5 gm a day. Shock resulting from adrenal insufficiency during periods of stress, such as a major surgical procedure or acute infection, may



PHENYLBUTAZONE AMINOPYRINE (DIMETHYLAMINOANTIPYRIN)

Figure 3.—Chemical structure of phenylbutazone and aminopyrine.

be avoided by fortifying the patient with extra steroid medication. It is our custom, for example, to administer 100 mg of cortisone acetate intramuscularly 24 hours before and again on the day of the surgical operation to all patients who are on steroid therapy. With such a schedule we have had no deaths due to adrenal insufficiency in over 70 patients subjected to major surgical procedures.

Among our rheumatoid patients who have received steroid therapy continuously for years, the most troublesome complications have consisted of osteoporosis and pathologic fractures (especially of the spine), increased capillary fragility and ecchymotic lesions, thinning and friability of the skin, and delayed wound healing. We have found no satisfactory way of combating these complications of cellular catabolism other than withdrawing steroids or reducing the dosage. High protein diets, complemental calcium, and the administration of anabolic sex hormones may be of value, but the effects of these measures are most difficult to measure. Rarely has vasculitis or peripheral neuropathy developed in patients we were treating, which is fortunate because these complications are serious and particularly refractory to treatment.

SALICYLATES

Salicylates, and particularly acetylsalicylic acid or aspirin, are the most commonly employed analgesic and antipyretic drugs in medicine. For the past 75 years they have been universally employed for the relief of the pain, aching and stiffness that characterize many rheumatic disorders. It has been amply demonstrated that salicylates administered in large doses have anti-inflammatory activity but not so much as adrenocortical hormones and their analogues, corticotropin and phenylbutazone. In animals acetylsalicylic acid will delay the erythema induced by ultra-violet light, will inhibit the exudative reaction of turpentine-induced pleurisy, and will lessen the capillary permeability that is ordinarily provoked by a variety of irritants. The mechanisms by which salicylates exert anti-inflammatory action are not entirely known, but presumably they involve the inhibition of certain enzyme systems and the suppression of vascular reactivity.

A number of authorities still prefer salicylates to adrenocortical steroids in the treatment of the ordinary patient with rheumatic fever. Steroid therapy is reserved by them for patients whose articular and febrile reactions cannot be symptomatically controlled by full doses of salicylates and for patients with clinical evidence of significant carditis. Ninety per cent of patients without signs of carditis during the acute attack recover without having clinical evidence of rheumatic heart disease. These are patients whose predominant manifestations are acute polyarthritis and they usually respond adequately to large oral doses of salicylates. Initial doses of 10 gm (150 grains) of acetylsalicylic acid per day are recommended for patients weighing 70 kilograms (150 pounds) or more, and proportionately smaller doses for patients weighing less. It is important that the total daily amount be divided into six doses given every four hours in order to maintain adequate blood levels of salicylate. Large doses should be continued until there is complete relief from the arthritis and until the temperature has returned to normal; dosage should then be reduced gradually over a period of days or weeks. Toxic symptoms (tinnitus, coloring of vision, nausea, impaired hearing, mental confusion) are not uncommon with high dosage and may force reduction in dosage before the desired response has occurred. In such circumstances the substitution or the addition of adrenocortical steroid therapy is in order.

Salicylates are the mainstays for the relief of pain in patients with rheumatoid arthritis. Aspirin or sodium salicylate is usually prescribed in doses of 0.3 to 0.6 gm (5 to 10 grains) four to six times a day. In these amounts it is probable that the anti-inflammatory effect is slight, but larger doses are not recommended for prolonged continuous use in a chronic disease such as rheumatoid arthritis. The concomitant ingestion of nonabsorbable antacids and the taking of the drug after meals or with milk reduces the incidence of gastritis and activation of peptic ulcers. There is no good evidence that various combinations with antacids increase the effectiveness or rate of absorption of salicylates.

PHENYLBUTAZONE AND OXYPHENYLBUTAZONE

Since its clinical introduction in 1951, phenylbutazone has established itself as a successful anti-inflammatory and analgesic agent in several conditions affecting the musculoskeletal system, especially acute gouty arthritis and ankylosing (rheumatoid) spondylitis. The drug, better known as Butazolidin,® is a pyrazol and is related to aminopyrine (Figure 3). Actually it was first employed as a solubolizing agent for aminopyrine and only later was found to have inherent therapeutic effects of its own. Like other pyrazole compounds it exerts several biologic effects. The anti-inflammatory quality of phenylbutazone has been amply demonstrated in laboratory animals: it delays or inhibits the erythema that follows exposure to ultraviolet light, and it inhibits the edema which normally follows the injection of formalin or egg albumin into the paw of a rat. The drug is also capable of causing sodium retention and it exerts uricosuric action in both normal and gouty subjects.[4]

The anti-inflammatory action of phenylbutazone is best exemplified in acute gouty arthritis, and during the past few years it has made a fair bid to replace colchicine in treatment of an acute episode. Given early in an attack and in adequate dosage, it causes the pain of acute gouty arthritis to subside dramatically within a few hours (within 24 hours in 95 per cent of early cases), and the signs of inflammation usually resolve within 24 to 72 hours. In well established attacks, when the synovitis has existed for several days, the response is slower and may not be complete for seven to fourteen days.

Our usual program for administering phenylbutazone orally in acute gouty arthritis is to prescribe a large initial dose of 400 to 600 mg, followed by 200 mg every two hours for two or three doses, so that a total of 1,000 mg is given during the first 24-hour period. Beginning on the second day and continuing until the inflammation has subsided, 100 mg is prescribed two to four times a day, depending on the severity of the attack and the response to the drug. Noxious side effects (diarrhea, nausea and vomiting) which occur so commonly with full therapeutic doses of colchicine, are not a problem with phenylbutazone. An occasional patient experiences gastric irritation from large initial doses, and in such circumstances the drug may be administered intramuscularly. The intragluteal injection of 500 to 1,000 mg early in an attack dramatically aborts or suppresses the inflammatory reaction. Given infrequently and for short periods, such as for an acute gouty attack, phenylbutazone rarely produces toxic reactions.

The drug has proved to be very useful in the symptomatic control of ankylosing (rheumatoid) spondylitis, and here again it appears to exert anti-inflammatory action. It is much more effective in spondylitis than in peripheral rheumatoid arthritis, and may even afford worthwhile relief in advanced cases in which ankylosis is present. Patients who respond well during the first six months of administration usually continue to do so over long periods. In our experience the results in peripheral rheumatoid arthritis from the small doses (100 to 200 mg a day) of phenylbutazone that can be tolerated on continued administration are unimpressive; rarely is a true anti-inflammatory response noted, and the degree of analgesia that results is usually not sufficient to warrant the risks involved.

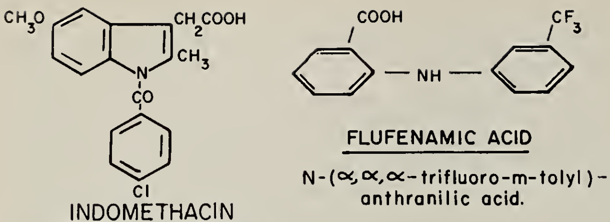
With long-term phenylbutazone therapy, total daily doses should not exceed 200 to 300 mg, as the incidence of toxic reactions is decidedly greater when higher dosage is used. Some spondylitic patients respond symptomatically to doses of 100 mg a day. If larger amounts (400 to 800 mg a day) are required to quell a temporary exacerbation, they should be employed for only a few days at a time. The physician must be thoroughly familiar with the drug's potential toxic effects and be ready to discontinue its administration or to lower the dosage if they appear. He must be particularly vigilant for such reactions as skin rash, indigestion and symptoms of peptic ulcer (including bleeding), fluid retention, suppression of hemopoiesis (agranulocytosis, aplastic anemia) and hepatitis. Blood cell examination should be done routinely each month during continuous therapy, and nonabsorbable alkalis should be ingested with each dose of the drug.

Favorable anti-inflammatory action from phenylbutazone has been reported in acute rheumatic fever and in superficial thrombophlebitis, but we have had no personal experience with the drug in the first and very limited experience in the second condition.

During the past four years, oxyphenylbutazone, a metabolite of phenylbutazone, has been introduced commercially under the trade name of Tandearil.® It was hoped that fewer unwanted side-effects would be produced by the derivative, but the results of carefully controlled studies indicate that phenylbutazone and oxyphenylbutazone do not differ significantly in either their ameliorating effects or toxicity.

COLCHICINE

Colchicum is perhaps the oldest anti-inflammatory drug in medicine, having been used by Byzantine physicians as early as the fifth century. Its alkaloid, colchicine, acts specifically in suppressing the inflammatory reaction of acute gouty arthritis, and the drug does not antagonize any other form of inflammation. The mechanism of its action in acute gouty arthritis is unknown: it exerts no effect on the production or excretion of uric acid; it does not influence the solubility of sodium urate in the plasma; it has no effect on adrenocortical function;



INDOMETHACIN

1-(p-chlorobenzoyl)-5methoxy-2-methylindole-3-acetic acid

FLUFENAMIC ACID

N-(α,α,α-trifluoro-m-tolyl)-anthranilic acid.

Figure 4.—Chemical structure of indomethacin and flufenamic acid.

and, insofar as can be determined, its anti-gout activity is unrelated to its antimytotic properties.

The response of acute gouty arthritis is usually dramatic if the drug is given early and in proper dosage. The specificity of its action makes colchicine of value both diagnostically and therapeutically. Joint pain, tenderness, redness and swelling usually begin to subside within 12 hours after therapy is begun, and in most instances pain is completely relieved after 24 to 72 hours. Acute bouts are considerably diminished in 80 or 85 per cent of cases by a single course of the drug, but the response rate is considerably less if treatment is delayed for several days after an attack has been established. Today authorities are divided in their preference of colchicine or phenylbutazone for treatment of the acute attack. Suffice it to say that phenylbutazone has successfully rivaled colchicine as the drug of choice in recent years, and phenylbutazone is usually effective in those cases that do not respond to colchicine.

For an acute attack we usually advise that 0.65 mg (1/100 grain) of colchicine be given orally every hour for 8 to 12 doses or until the occurrence of nausea, vomiting or diarrhea. Many patients learn by experience the optimum number of tablets necessary to relieve an attack, and by taking one or two tablets short of toxic effects they avoid undesirable gastrointestinal symptoms.

For patients who, for one reason or another, cannot take the drug orally, colchicine may be given intravenously. If the dosage by this route does not exceed 3 mg, gastrointestinal symptoms are usually obviated. It is our custom to give a second intravenous dose of 3 or 2 mg after 12 or 24 hours.

During the past few years a number of colchicine analogues have been prepared and evaluated. Of these, desacetylmethylcolchicine and desacetylthiocolchicine are effective for acute gouty episodes and have considerably less gastrointestinal toxicity. These drugs should not be considered as satisfactory alternative agents, however, because they have much greater tendency than colchicine to produce agranulocytosis and loss of hair.

EXPERIMENTAL NONSTEROIDAL ANTI-INFLAMMATORY AGENTS

During the past five years a number of nonsteroidal compounds with anti-inflammatory activity, as demonstrated by animal testing, have been tried clinically in patients with rheumatic disease. The most promising of these has been a series of indole preparations, one of which, known as indomethacin (MK-615), has been investigated extensively in many centers. Another family of compounds which is now being assessed for anti-inflammatory, analgesic and antipyretic properties is represented by flufenamic acid (Figure 4).

Indomethacin has shown anti-inflammatory activity in rats by the cotton-pellet granuloma-inhibition test and by its capacity to suppress the edema that usually results from the subplantar injection of irritating agents. The level of its activity may be compared with that of phenylbutazone, and toxic effects from oral administration to animals have consisted of gastrointestinal irritation for the most part. Chemically, indomethacin is 1-(p-chlorobenzoyl) -5-methoxy-2-methylindol-3-acetic acid (Figure 4).

Our clinical experience with indomethacin embraces a total of 119 patients with various types of rheumatic disease who were treated for varying periods (from 1 to 18 months) and with oral dosage ranging from 50 to 200 mg a day. Among patients with osteoarthritis, chronic tendinitis and bursitis, the results have been disappointing, and the majority so afflicted have noticed no difference when placebos were given. Among 51 patients with active peripheral rheumatoid arthritis, most of whom received 100 to 200 mg per day, the influence of the drug on subjective complaints as well as on lessening of the measurable objective manifestations of the disease has been inconclusive. An occasional patient with mild or moderate disease activity has responded well, but even among these less severe cases objective evidences of significant antirheumatic action have been witnessed irregularly and unpredictably. Among corticosteroid-treated patients the concomitant administration of indomethacin has only occasionally allowed reduction of maintenance dosage of the steroid. Conversely, indomethacin in dosages of 100 to 200 mg a day has proved to be quite effective in reducing the subjective complaints of ankylosing (rheumatoid) spondylitis, and its ameliorating influence might eventually prove comparable to that of phenylbutazone in this condition.

In the experience of some investigators, attacks of acute gouty arthritis respond rapidly to indomethacin given in dosages of 400 to 600 mg during the first 24 hours. Reportedly, the benefits derived compare favorably with those observed from phenylbutazone and colchicine. We have had no experience with the drug in acute gouty arthritis because we have been unwilling to risk dosages that exceed 200 mg a day.

Adverse effects from indomethacin are frequent, and their occurrence limits the usefulness of the drug. With daily dosages of 100 to 200 mg a day, headaches, dizziness or drowsiness have been the most common side effects noticed.[5] Gastric irritation has been common, and in five of our patients roentgenographically demonstrable gastric ulcers developed. Four of the five were treated simultaneously with oral adrenocortical steroids while one patient with a severe hemorrhagic ulcer received indomethacin only.

2210 West Third Street, Los Angeles, California 90057.

REFERENCES

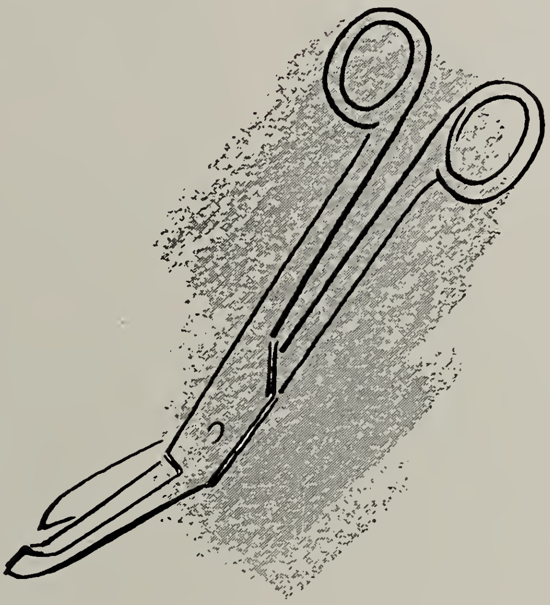
1. Boland, E. W.: Present status of hydrocortisone as a therapeutic agent in rheumatoid arthritis, Ann. New York Acad. Sc. 61:349, 1955.

2. Boland, E. W.: Antirheumatic potency of chemically modified adrenocortical steroids, Am. J. of Med. 31:581, 1961.

3. Boland, E. W.: Clinical comparison of the newer anti-inflammatory corticosteroids, Ann. of Rheum. Dis. 21:176, 1962.

4. Freyberg, R. H.: Phenylbutazone (Butazolidin®) in the treatment of acute arthritis. Progress in Arthritis, pp. 177-184, Ed. Talbott and Lockie, Grune and Stratton, 1958.

5. Hart, F. Dudley and Boardman, M. B.: Indomethacin: a new non-steroid anti-inflammatory agent. Brit. Med. Journal, pp. 965-970, Oct. 19, 1963.



Constricting Esophageal Lesions

Colon Interposition for Replacement, Combined With Radiotherapy for Carcinoma

IVAN D. BARONOFSKY, ***M.D., Ph.D.,*** **San Diego**

• The use of colon for esophageal replacement is a procedure that should be considered in the treatment of benign and malignant esophageal lesions. The five-year survival data following operations for carcinoma of the esophagus are not outstanding. The combination of colon transplantation and radiotherapy before and after operation is a procedure that should be utilized if an effort is to be made to increase the survival rate.

AS THE ESOPHAGUS has no excess of tissue, operations for removal of lesions from it entail replacement of the removed portion with either another portion of the gastro-intestinal tract or a plastic tube.

Stomach[5] or tubes formed from stomach,[9] segments of jejunum,[14] skin tubes[4] and tubes of plastic and other inert materials[3,7] have all been used in an attempt to reconstruct the esophagus. Difficulty in mobilization,[14] inadequate blood supply,[14] peptic esophagitis[11] and the formation of strictures and fistulas[8] have been encountered.

We have had excellent results with the use of colon transplants in esophageal replacement.[2] In previous reports we and others have shown the value of the colon in this technique.[1,6,10] Colon is relatively resistant to gastric secretions.[12] It is nourished by a marginal artery, which in most instances runs uninterrupted along its entire length.[1]

Colon is especially useful in the surgical treatment of carcinoma of the esophagus, for in that condition extensive submucosal lymphatic involvement beyond the gross confines of the tumor is invariable.[13] Total thoracic esophagectomy is a very adequate treatment, and transplanted colon serves well for replacement. This technique, combined with a method of split radiotherapy, we believe may give patients the best opportunity of cure. We believe also that it is applicable especially to the very unfavorable carcinoma of the upper third and middle third of the esophagus.

Technique

The technique varies, depending upon whether the lesion is malignant or benign. For malignant lesions, cobalt therapy is added to the staged resection of the esophagus, the sequence being as follows:

1. Cobalt therapy—2500 rads to lesion.
2. Esophagocologastrostomy.
3. Upon discharge from hospital, repeat cobalt therapy of 2500-3000 rads.
4. Three weeks later, transthoracic esophagectomy (right chest).

The preoperative preparation of the patient is very important. Before operation, barium enema studies must be done to make sure there is no disease of the colon. Then neomycin and sulfathalidine and vitamins K and C are given to prepare the colon and promote healing of the transplant.

The patient is placed on the operating table in the supine position with the neck extended. The entire chest, abdomen and neck are draped. An upper midline incision adequately exposes the colon and the stomach. The omentum is separated at its colonic insertion and the entire left colon, splenic flexure and transverse colon are mobilized. The distance from midneck to midstomach is measured. About three to four inches are added and this is the length of colon to be utilized. The midcolic artery is then identified and preserved, while the colon to be used is severed from its mesentery as far down the descending colon as necessary for length (Figure 1). The marginal arteries are carefully preserved. The colon and the marginal arteries are then transected at the proper site. The mesentery of the colon is severed.

A second team, meanwhile, has been isolating the cervical esophagus through an incision anterior to the sternocleidomastoid muscle. It is then transected and the distal end is closed with a purse-string suture of heavy silk. The heavy silk will act as an excellent marker for the future esophageal resection if that is contemplated.

A retrosternal tunnel with an opening large enough to admit two or three fingers is then started

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Submitted August 13, 1963.

Clinical Professor of Surgery, University of Southern California School of Medicine, Los Angeles.

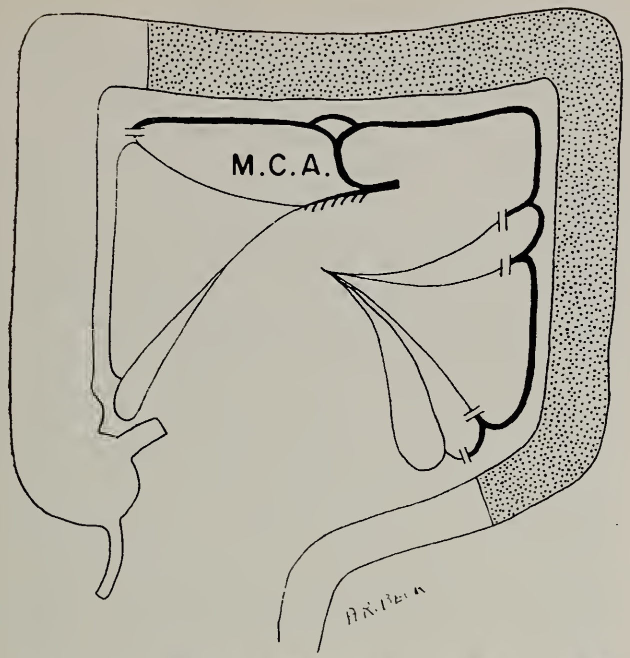

Figure 1.—Vascular pattern of the colon as encountered at operation. The shaded area represents the amount of colon available as a graft. In the pictures the right and left colic arteries and the first sigmoid artery have been divided. The viability of the transplanted colonic segment is entirely dependent on blood which it receives from the middle colic artery (M.C.A.).

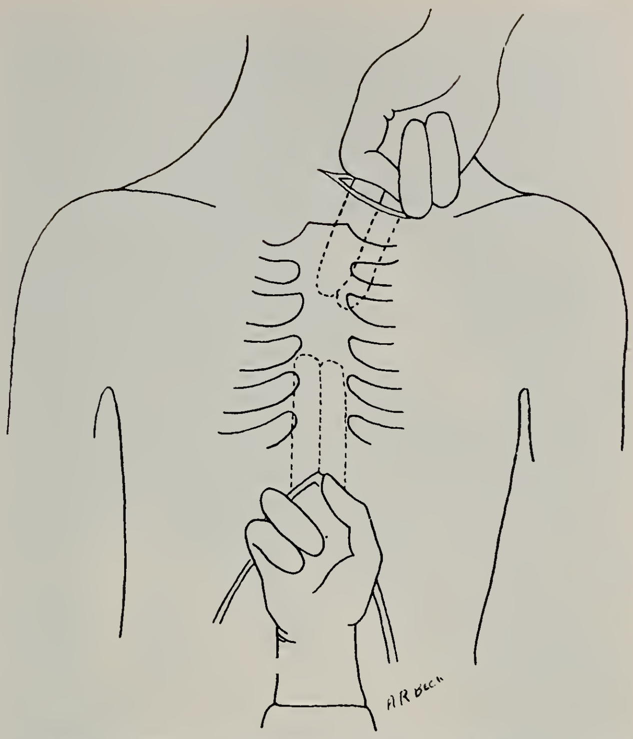

Figure 2.—The retrosternal tunnel is created by blunt dissection.

from below and above by blunt finger dissection (Figure 2). It can more safely be started from the abdominal side with a finger protecting the innominate vein during the upper dissection.

The next step is to bring the colon through an opening in the gastrohepatic ligament posterior to the stomach. It is then brought upward through the tunnel in an antiperistaltic position. Two-layer anastomosis is then carried out, first colon to esophagus and then colon to stomach (Figure 3). End to end anastomosis of the colon from which the graft was taken then is done. The upper portion of the stomach is used for the colon conduit. Gastrostomy may be added, but pyloroplasty should be done.

In the case of benign lesions, the operation ends with the foregoing procedure. In dealing with malignant lesions cobalt therapy is continued after operation, and three weeks after the last irradiation a repeat thoracotomy through the sixth interspace is used for the excision of the entire remaining esophagus. The stomach end is closed either with two layers of purse-string sutures or interrupted sutures.

REPORTS OF TWO CASES

CASE 1. A boy two and a half years old was admitted to Childrens Hospital on September 28. The diagnosis and history was conclusive for severe esophagitis and esophageal stricture, probably secondary to ingestion of lye or other caustic material. During the month of October, attempts were made to build the child up with intravenous feedings and other supportive measures. A course of steroid therapy was begun, and esophageal dilatations were attempted but proved to be too dangerous. In the last week of October, gastrostomy was done for feeding purposes.

After the operation the patient did only moderately well but on two occasions aspirated saliva. Transplant of a section of colon to the esophagus

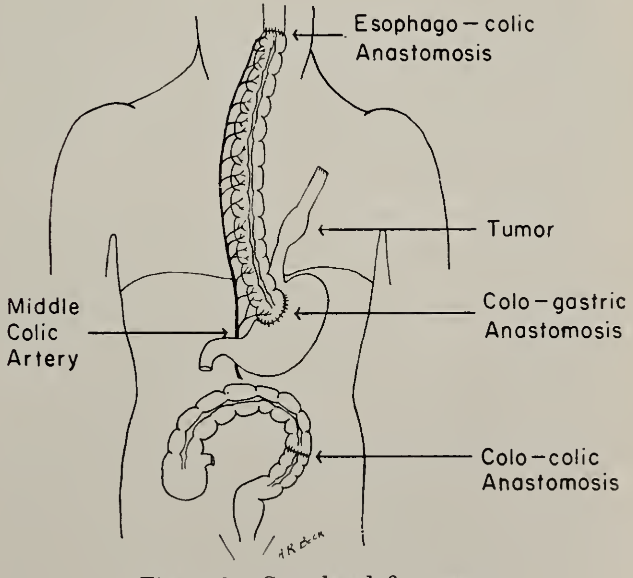

Figure 3.—Completed first stage.

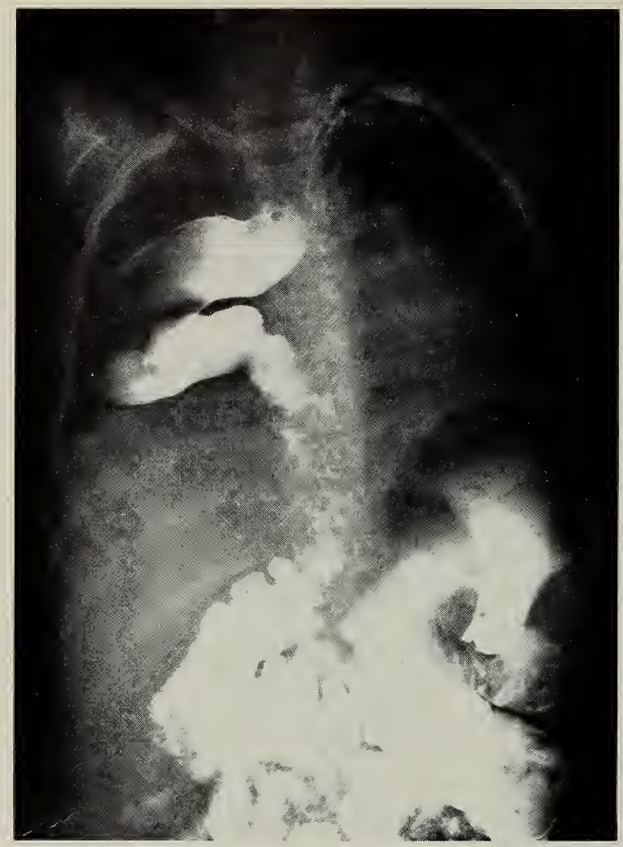

Figure 4.—(Case 1) Barium study showing left colon and redundancy of colon transplanted as substitute esophagus.

was carried out in the manner previously described. The length of colon used in the repair seemed redundant. Postoperatively a cervical fistula developed which healed after a period of time and the patient did exceptionally well thereafter. The opening in the stomach that had been made previously for feeding purposes was closed at a subsequent procedure.

There has been one complication which I believe is related to the excessive colon utilized. Symptoms that were related to this were related to the inability of food to empty quickly from the colonic segment. With conservative management this obstruction was completely relieved.

Comment: In this instance left colon placed in an antiperistaltic manner was utilized. The tremendous redundancy of the transverse colon and the presence of a pliable mesentery in young patients makes it an ideal esophageal substitute in infants and children. In this instance there was actually too much colon utilized, as may be seen in Figure 4. A more accurate measurement of length is in order. Whether isoperistaltic or antiperistaltic segments should be used is open to question. In a recent national meeting the suggestion that isoperistaltic segments would be better, brought forth a burst of comment suggesting that it made no difference. With regard to the blood supply, there is no question that viability will invariably be present.

CASE 2. The patient was a 51-year-old woman who began having difficulty in swallowing about a year before she was observed. She was able to swallow water, but salads and solid foods seemed to stick and this particular symptom had been getting worse progressively. Esophagoscopic examination was done and a lesion was seen in the upper third of the esophagus. Biopsy showed it to be squamous cell carcinoma. Cobalt therapy was begun and when the prescribed dose of irradiation had been given, transplantation of a segment of colon into the neck was accomplished. In this particular instance, the right colon was used because it was exceptionally long and the blood supply appeared adequate. Postoperative convalescence was excellent. As soon as the patient was discharged from the hospital, cobalt therapy was given again. Three weeks after completion of this treatment, total esophagectomy was accomplished through the right chest. There was no involvement of adjacent lymph nodes and the diagnosis of squamous cell carcinoma of the esophagus was reconfirmed. The patient did exceptionally well thereafter.

Comment: In this particular instance we were able to utilize the right colon. However, we prefer the left colon because of the greater margin of safety offered by its longer blood supply. The use of irradiation therapy before and after the transplant and the staged esophagectomy should be emphasized here. An obvious advantage of abdominal exploration is the ability to explore the abdomen for metastatic lesions. If any are present, the operation can be terminated at that point and further irradiation to the prescribed amount continued.

DISCUSSION

The use of the colon for cervical esophagogastric anastomosis has much merit and fistulas following it are rarely fatal. The mortality due to mediastinitis following a breakdown of extrathoracic anastomosis is extremely high.

Colon has distinct advantages over stomach, gastric tube and jejunum. We have shown these advantages as well as the advantages of the left colon over the right. The pattern of the marginal artery is constant on the left colon, whereas this is not so in the right colon. In our estimation, the pre-esophagectomy irradiation as we have used it in split doses has distinct advantages. The initial cobalt therapy will aid in sterilizing the lymphatic channels surrounding the tumor. Interposition of the colon at this point enables the patient to eat and gain weight and strength. He can still eat during the irradiation that follows. Excision of the tumor and the esophagus three weeks after the final therapy can be done easily with little morbidity.

7910 First Street, San Diego, California 92123.

REFERENCES

1. Beck, A. R., and Baronofsky, I. D.: A study of the left colon as a replacement for the resected esophagus, Surgery, 48:499-509, 1960.

2. Beck, A. R., Kreel, I., and Baronofsky, I. D.: Use of the left colon to replace the esophagus, American Journal of Surgery, Vol. 101, January 1961.

3. Berman, E. F.: A plastic prosthesis for resected esophagus, Arch. Surg., 65:916, 1952.

4. Bircher, E.: Ein Beitrag zur Plastischen Bildung eines Neuen Oesophagus, Zentralbl. Chir., 34:1479, 1907.

5. Garlock, J. H.: Resection of the thoracic esophagus for cancer located above the arch of the aorta: Cervical esophagogastrostomy, Surgery, 24:1, 1948.

6. Luna, R. and Ernst, W. R.: Colon interposition for treatment of benign and malignant constricting esophageal lesions, J.A.M.A., 84:114, 1963.

7. Mackler, S. A. and Mayer, R. M.: Palliation of esophageal obstruction due to carcinoma with a permanent intraluminal tube, J. Thoracic Surg., 28:431, 1954.

8. Mahoney, E. B. and Sherman, C. D., Jr.: Total esophagoplasty using intrathoracic right colon, Surgery, 35:937, 1954.

9. Mes, G. M.: New method of esophagoplasty, J. Internat. Coll. Surgeons, 11:270, 1948.

10. Neville, W. E. and Clowes, G. H. A.: Colon replacement of esophagus in children for congenital and acquired disease, J. Thoracic and Cardiovascular Surgery, 40:507, 1960.

11. Ripley, H. R., Olson, A. M. and Kirklin, J. W.: Esophagitis after esophagogastric anastomosis, Surgery, 22:1, 1952.

12. Sirak, H. D., Clatworthy, H. W., Jr., and Elliot, D. W.: An evaluation of jejunal and colonic transplants in experimental esophagitis, Surgery, 35:399, 1954.

13. Watson, W. L., Goodner, J. T., Miller, T. P. and pack, G. T.: Torek esophagectomy: The case against segmental resection for esophageal cancer, J. Thoracic Surgery 32:348, 1956.

14. Yudin, S. S.: The surgical construction of eighty cases of artificial esophagus, Surg. Gynec. & Obst. 78:516, 1944.

Sulfonamyl Diuretics

Mechanism of Action and Therapeutic Use

KATHLEEN E. ROBERTS, *M.D.*, Toledo, Ohio

• The mechanism whereby sulfonamyl diuretics are effective is through the blockage of the renal tubular reabsorption of chloride. The excretion of sodium, potassium and water is a passive one to maintain ionic equilibrium. Chlorothiazide has been shown to be almost ineffective as a diuretic agent *per se*. Although it does block a moiety of the renal tubular reabsorption of bicarbonate, the effect is merely a transient one.

In THE TIME since it was first noted that certain cyclic sulfonamide diuretics may cause diuresis, many analogues of these agents have been developed for clinical use. Although less effective than the organic mercurial diuretics, they warrant attention because of their increasing clinical popularity and the ease of administration. They have the advantage of being useful when given either orally or intravenously. Most of them have little toxicity and they are therapeutically effective not only in edema due to various causes, but also in obesity and as weakly hypotensive agents.[1-7,12]

Among the various sulfonamyl diuretics which have evolved for clinical use, there are two general classifications, which accord with their physiological effects—the acetazolamide group and the thiazide group. Although these two groups are generally characterized as having similar effects on the renal excretion of water and electrolytes in dogs, this is not the case in humans.[8] Hence, the separate categories.

ACETAZOLAMIDE

Acetazolamide (Diamox®) when given intravenously in doses of 2 to 3 gm will alkalinize the urine acutely both in human subjects and animals. When given in smaller doses, it has little if any diuretic or alkalinizing effect.

When given in such large amounts intravenously, its immediate action is to block the renal tubular reabsorption of bicarbonate, as illustrated in Figure 1. Its mechanism of action is to increase the intracellular pH and cause temporary, short-lived diuresis. The reabsorption of bicarbonate is dependent in large part on the intracellular pH of the renal tubules. When this is alkaline, bicarbonate reabsorption is decreased.[8,10,11]

As is illustrated in Figure 1, the blockage of carbonic anhydrase inhibits the formation of carbonic acid. In the intracellular fluid, as in the extracellular fluid, the ratio of bicarbonate to carbonic acid determines, in part, the cellular pH. In renal tubular cells, the bicarbonate is bound as potassium bicarbonate. If the carbonic acid decreases and potassium is unchanged, the cellular pH will become more alkaline. However, the renal tubular alkalinization and diuresis is transient, since the renal tubules quickly accommodate to the inhibition of carbonic anhydrase, and by "mass action" carbonic acid is again formed. When the cellular enzymatic changes adjust, bicarbonate reabsorption returns to normal.

Acetazolamide finds its best use in conditions in which respiratory acidosis and pulmonary disease exist. When it is effective, clinically, the effect is brought about through an increase in blood ammonia. The elevated ammonia acts as a respiratory stimulus. The increase in respiration restores the oxygen requirements of the body and reverses the

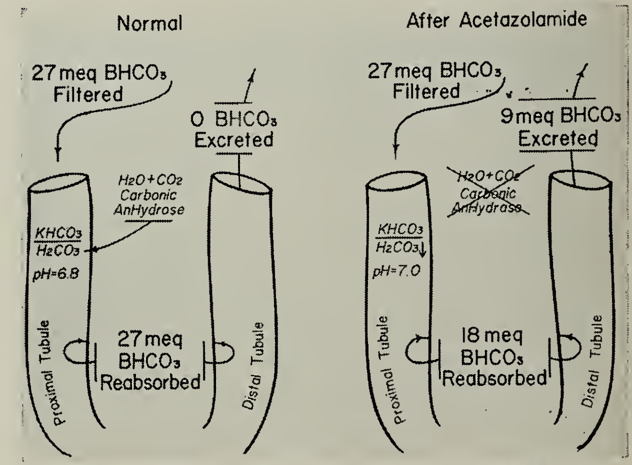

Figure 1.—Schematic representation of the effects of acetazolamide on the renal tubular reabsorption of bicarbonate.

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Submitted June 5, 1963.

TABLE 1.—*Dosage Schedule, Mechanism of Action and Duration of Effect of Various Sulfonamyl Diuretics*

Agent	Mechanism of Action	Dosage	Duration of Action (Hours)
Acetazolamide	Blockage of bicarbonate excretion (30 per cent) Increase of respiratory exchange	0.5 to 1 gm	6-8
Chlorothiazide	Blockage of chloride excretion (sodium, potassium and ammonia excretion simultaneously increased)	0.5 to 1 gm	6-8
Hydrochlorothiazide	" " "	50 to 100 mg	8-10
Methylchlorothiazide	" " "	2.5 to 5 mg	10-14
Benzothiodiazide	" " "	50 to 100 mg	12-14

acid-base balance to normal. In respiratory acidosis, hypochloremia is common and is the result of a shift of chloride to the intracellular compartment (primarily into red blood cells). When respiratory acidosis is corrected, the hypochloremia disappears. Occasionally, overzealous respiratory correction may cause hyperchloremia.

Acetazolamide does not improve the chemical or clinical status of a patient who is unable to increase ventilatory exchange—for example, in a patient with a fixed rib cage or a patient who is artificially ventilated. The respiratory acidosis does, in fact, become worse in these situations, due to the fact that the release of carbon dioxide across the alveolus is normally potentiated by carbonic anhydrase. If this enzyme is inhibited and ventilation is static, retention of carbonic acid ensues and respiratory acidosis becomes more severe.[8]

Acetazolamide is sometimes used to potentiate the hyperchloremia precipitated by chloride salts. However, this effect is not dramatic and the studies reporting this action were poorly controlled. Because of its inefficiency in patients without respiratory acidosis, and its weak effect even in respiratory acidosis, its clinical popularity as a drug is disappearing.

TOXICITY

Acetazolamide commonly produces ammonia intoxication, particularly in patients with hepatic disease. It does so by decreasing hepatic blood flow, thereby impeding the detoxification of ammonia entering the portal vein from the gastrointestinal tract. This effect of acetazolamide in causing ammonia intoxication is useful in stimulating ventilatory exchange in patients with respiratory acidosis, provided hepatic function is adequate. It is common to observe elevations up to 200 to 300 micrograms per 100 ml, which is sufficient to stimulate respiratory exchange beyond normal.[9]

It is rare to observe potassium depletion and metabolic alkalosis after administration of acetazolamide, since it has so slight and so transient an effect on the renal excretion of electrolytes when given in the usual therapeutic doses. If electrolyte alterations are present after the administration of acetazolamide, it is usually due to some other extraneous factor.

Respiratory alkalosis may be a complication of acetazolamide administration. However, it is usually secondary to the ammonia intoxication rather than to the drug itself.

Acetazolamide is most useful not as a clinically therapeutic agent but as a research drug. It is used in this capacity as a chemical tool to precipitate a dramatic and acute inhibition of carbonic anhydrase or to increase respiration.

THIAZIDE DIURETICS

Although strictly speaking this class of diuretics is assigned to the sulfonamyl group, their effect in man is entirely different from that of acetazolamide or other sulfonamide diuretics. Much of the confusion in the literature about these drugs has been due to the extensive experimental reports on dogs. Both groups of diuretics behave similarly in dogs and rats to block bicarbonate reabsorption. Their action is primarily on the renal excretion of sodium, chloride, potassium and water. There are four which are commonly used. All act on the same principles, although they differ in potency. The ones studied include chlorothiazide (Diuril®), hydrochlorothiazide (Hydrodiuril,® Enduron®), methylchlorothiazide and benzothiodiazide (Ureas®). The dosage schedule and potency of each agent is summarized in Table 1, which also indicates their relative effectiveness.

It is stated that the action of this oral group of diuretics is on the renal tubules, and that their action, like that of mercurial diuretics, is to block some moiety of renal reabsorption of sodium either in the distal or proximal tubules. Actually, this statement is erroneous, since they directly block

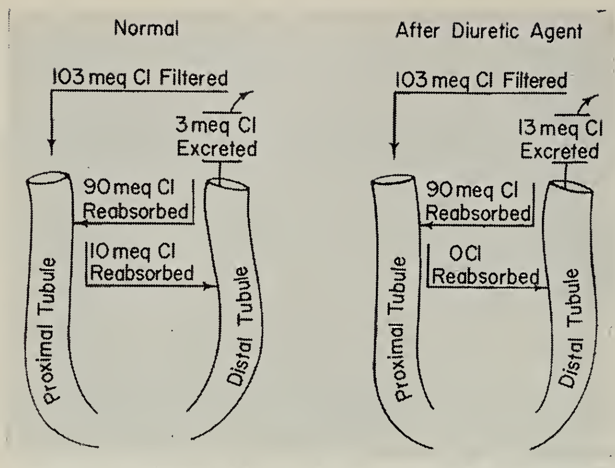

Figure 2.—Mechanism of action of thiazide diuretics.

reabsorption of chloride primarily and of sodium secondarily. If sodium reabsorption *per se* were blocked, there should be a concurrent excretion of sodium with its companion anions—bicarbonate, chloride and phosphate—in some definite relationship. However, this has not been found to be true. Chloride is the only anion which is excreted along with the cations, sodium, potassium and ammonia. These are excreted with chloride to maintain chemical equilibrium. The excretion of these ions promotes diuresis.

Theoretically, the excretion of sodium and potassium may be passive. Ammonia, of course, will depend on metabolic processes and the exchange of ammonia for sodium filtered at the glomerulus. Figure 2 outlines this hypothesis that the thiazide diuretics act, primarily, to block chloride and that cation excretion is a companion action to maintain chemical equilibrium. In support of this concept is the fact that bicarbonate, the other major anion filtered with sodium at the glomerulus, is unaffected by the thiazide diuretics.

The average dosage and duration of action of these drugs varies, but they all act in a similar manner. Although minor differences on potassium excretion may be noted, this is not a significant factor if administration of potassium salts is used to provide adequate protection. It is known that only traces of bicarbonate are excreted in the urine after thiazide administration in humans. This is in contrast to acetazolamide, which actively inhibits the renal tubular reabsorption of bicarbonate and causes an alkaline urine containing significant quantities of bicarbonate.

Refractoriness

Frequently, patients may become refractory to the oral thiazide diuretics. This is usually because of a decreased glomerular filtration rate or hypochloremia or both. If the filtration rate is decreased or if hypochloremia is present, insufficient amounts of chloride are presented to the distal tubule where it is presumed the diuretics have their blocking effect. Effectiveness can be restored by administration of chloride salts to attain hyperchloremia and set the stage for diuresis when the thiazide is subsequently administered.[8]

ACIDIFYING SALTS

It is an established fact that practically any chloride salt which is tolerated orally can be used to establish hyperchloremia[*] The most important consideration is that sufficient quantities must be given to be effective. Ideally, the plasma concentration should be increased to 118 to 120 mEq per liter. Calcium chloride can be given in enteric coated capsules which are mixed with a drying agent, or it can be given as a solution if tolerated in that form. Arginine hydrochloride may be used either intravenously or by mouth. Potassium chloride is also used as an auxiliary agent in a dose of 4 gm a day. Ammonium chloride cannot be used in patients with liver disease. The chloride salts are given for three to five days before the administration of the diuretic agent and are more effective if continued throughout the diuretic period. The usual dose of calcium or ammonium chloride is 8 to 10 gm a day. The usual dose of arginine hydrochloride is 25 gm a day. The acidifying salts have no diuretic effect *per se* in patients. They are only effective in potentiating the thiazide agents.[†]

Although the plasma pH drops (to the range of 7.1 to 7.2) when plasma hyperchloremia is established, it seldom decreases to dangerously low values. The minimum pH compatible with life is 6.8 and this value is seldom reached with the recommended dosage of chloride salt. Renal and cellular compensation are usually quite effective in preventing a severe drop in pH. Nausea and vomiting are prominent symptoms when the blood pH decreases below 7.1 and this acts as an automatic feature to prevent the pH from decreasing further. If nausea and vomiting are present, the dose of chloride salt may be too high, and it should be decreased accordingly. None of the patients so far studied has dropped below this value unless some coincident respiratory disturbances or associated acidosis existed.[‡]

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[*] Theoretically, choline chloride should be effective in creating hyperchloremia. Preliminary evidence indicates that it is effective. However, there is not sufficient data available yet to offer it for clinical therapy.

[†] They would not be expected to potentiate the action of acetazolamide since this agent acts on the bicarbonate ion.

[‡] Ammonium, arginine and potassium chloride may be given intravenously if appropriate precautions are taken. Ammonium and potassium should not be given in a concentration greater than 46-60 mEq per liter of infusing media parenterally. Calcium chloride has a high degree of cardiac toxicity and should never be given intravenously.

COMPLICATIONS

The complications of the thiazide diuretics include metabolic alkalosis, sodium depletion, potassium depletion, ammonia intoxication and digitalis toxicity.

Metabolic Alkalosis

Following thiazide diuretic therapy, metabolic alkalosis may occur as the result of three factors acting collectively. They are: (1) potassium depletion favoring the renal tubular reabsorption of bicarbonate (by decreasing the intracellular pH[8,11]), (2) increased excretion of ammonium with chloride, providing for a greater renal production of bicarbonate; and (3) renal loss of extracellular fluid in excess of bicarbonate. Since the bicarbonate already present in extracellular fluid is not excreted by the kidney, its concentration in the plasma is accordingly increased, as is demonstrated in Figure 3. The increased concentration causes a metabolic alkalosis.

Metabolic alkalosis or potassium depletion or both may precipitate cardiac arrhythmia and heart failure if the patient is coincidentally treated with a digitalis glycoside. Potassium depletion and metabolic alkalosis both act to potentiate the action of digitalis in the body and toxicity may occur even though the concentration of digitalis in the body is unchanged. The mechanism whereby potassium depletion or alkalosis causes cardiac toxicity is through a change in the resting membrane potential.[11] Both cause the electromotive force (EMF) across the cell membrane to increase, thereby increasing the action potential. The neuron stimulus necessary to cause depolarization is increased and causes depolarization to become more difficult. Since cardiac glycosides also affect the membrane potential in the same direction as alkalosis and potassium depletion, these situations are additive.

This cardiac and metabolic abnormality can be corrected or prevented by the provision of at least 4 to 6 gm of potassium per day. It is usually wise to administer the potassium salt in a form to assure its absorption. Enteric coated potassium, although palatable, is not always absorbed from the intestine.

Sodium depletion infrequently occurs after thiazide diuresis and is the result of too intensive diuretic therapy without adequate sodium provision. The clinician, of course, should be cognizant of the dilutional syndrome which may cause hyponatremia. This is on the basis of retention of extracellular water: Although the total sodium in the extracellular fluid is normal, or even increased, dilution of plasma content causes hyponatremia. This condition may result indirectly from vigorous diuretic therapy, but it is usually due to excessive retention or administration of water and potassium depletion.

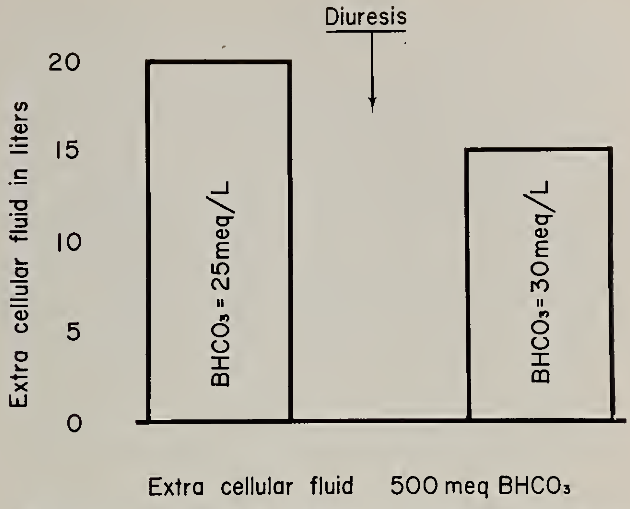


Figure 3.—Process by which use of thiazide diuretics increases concentration of bicarbonate in plasma. An assumed figure is used for the concentration of bicarbonate. As shown, if it is presumed that bicarbonate exists in a concentration of 25 mEq per liter with a total extracellular fluid of 20 liters before diuresis, the total extracellular bicarbonate is $25 \times 20 = 500$ mEq. If 5 liters of extracellular fluid is excreted after the diuretic is given, the total bicarbonate will be present in 15 liters instead of 20 and the concentration will be 30 mEq per liter.

Ammonia Intoxication

Ammonia intoxication is a complication peculiar to all sulfonamyl diuretics. It is due to a decrease in hepatic blood flow and subsequent impairment of the detoxification of ammonia arriving from the gastrointestinal tract. If ammonia intoxication does occur, it is easily corrected by oral antibiotics, enemas and a low-protein diet. If it is a serious complication it may be corrected with potassium or sodium glutamate. Usually, 10 to 20 gm of potassium glutamate a day is adequate. If the patient is in coma from ammonia intoxication, 80 to 100 gm of the sodium and potassium glutamate must be administered to restore consciousness.[8,9]

Hypotensive Effects

The thiazide diuretics have a weakly hypotensive effect either when given alone or in association with other hypertensive agents. The hypotensive effects are not outstanding in severe or malignant hypertension except when used in conjunction with other hypotensive agents.

Maumee Valley Hospital, 2025 Arlington Ave., Toledo, Ohio 43609.

REFERENCES

1. Aleksandro, D., Wysznacka, W., and Gajewski, J.: Influence of Chlorothiazide upon arterial responsiveness to nor-epinephrine in hypertensive subjects, New England J. Med. 261:1052, November 9, 1959.

2. Ford, R. V.: Comparative effects of benzydroflumethiazide and hydrochlorothiazide on urinary electrolyte excretion, Current Therap. Res., 2:92, March, 1960.

3. Ford, R. V.: The clinical pharmacologic investigation of a new benzothiadiazine diuretic, Current Therap. Res., 5: 407, March, 1960.

4. Ford, R. V., Moyer, J. H. and Spurr, C. L.: Clinical and laboratory observations on chlorothiazide (Diuril®), Arch. Int. Med. 100:582, 1957.

5. Hwang, K., Iwamoto, H. K., Coen, L. and Johnson, H. E.: Diuretic effect of some 2- and 3- substituted analogues of hydrochlorothiazide, Fed. Proc., 19:363, 1960.

6. Nickell, J. and Ford, R.V.: Clinical pharmacologic observations on Oretic, a new orally active diuretic agent, Current Therap. Res., 1:25, 1959.

7. Pitts, D. F.: Mechanism of Action and Therapeutic Use of Diuretic Agents, Charles C. Thomas, publisher, 1959.

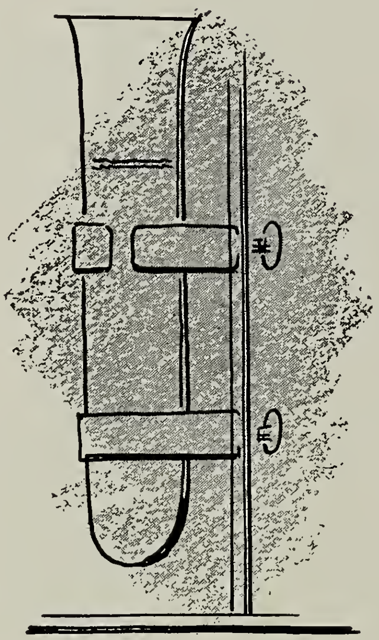
8. Roberts, K. E.: Clinical Physiology, Filmer Bros. Press, San Francisco, 1960.

9. Roberts, K. E.: Ammonia intoxication, S. Car. Med. J., 33:1, 1957.

10. Roberts, K. E., Magida, M. G.: Electrocardiograph alterations produced by a decrease in plasma pH, bicarbonate and sodium as compared with those produced by an increase in plasma potassium, Circ. Res., 1:206, 1953.

11. Roberts, K. E., Randall, H. T., Vanamy, P. and Poppell, J. W.: Bicarbonate metabolism, Metabolism, 4:404, 1956.

12. Symposium on chlorothiazide and other diuretic agents, Am. N. Y. Acad. Sc., 71:32, 1958.



Acne Vulgaris

Evaluation of a Medicated Cleansing Pad

HARRY L. ROTH, *M.D.*, Daly City

• Using the technique of simultaneous, symmetrical paired comparisons, a medicated cleansing pad that can be easily used at work or at school as an adjunctive in the treatment of acne vulgaris was evaluated.

The experimental pads were significantly beneficial in reducing skin oiliness and in clinical improvement of the acne. Response to standard acne therapy was faster when the pads were used adjunctively, although the significant results seen initially tended to even out as therapy continued.

Use of the medicated pads produced no untoward side effects and were well accepted by patients.

ACNE VULGARIS is a disease having multiple known and unknown etiologic factors. The therapeutic approaches to the treatment of this disease are legion, but if one analyzes the main principles of treatment, it is noted that most are aimed at removing and preventing the comedone component, diminishing the bacterial flora of the skin and reducing the formation and accumulation of sebum and keratinous debris on the skin surface by the use of cleansing methods.

The latter poses a great problem, particularly among teenagers and working people. Instructions for applying medication and avoiding factors which may trigger flare-ups of acne are usually followed quite meticulously. However, adequate and frequent daytime skin cleansing is often neglected, most patients offering the excuse that it is inconvenient or impossible to take medicated soaps to school and to work, let alone spare the time necessary for adequate cleansing of the face.

In the fall of 1960, I began evaluating a medicated cleansing pad* specifically designed for daytime adjunctive therapy in acne vulgaris. The pad is medicated with a lotion containing 50 per cent ethyl alcohol and 1.5 per cent salicylic acid. Its stated purpose is to cleanse excessive oiliness from the skin and exert a mild drying astringent and keratolytic effect. For convenience, a day's supply is carried in a compact-sized container which fits either purse or pocket.

METHOD

The study embraced 30 patients with acne vulgaris, 19 male and 11 female, ranging in age from 13 to 32. Individual patients were observed for periods of from four to forty weeks.

The experimental technique was the method of simultaneous symmetrical paired comparisons, as described by Sulzberger.[2] The method is excellent for canceling out variables, in that similar lesions on the same person are subject to identical influences from the host. Any difference in the clinical response of these lesions to treatment by different agents, therefore, can be considered a measure of the agent's effectiveness.

The study procedure was as follows:

At the time of original examination and diagnosis, the degree of skin oiliness was graded on a 1 to 4 scale. Severity of acne also was graded on a 1 to 4 scale as described by Pillsbury, Shelley, and Kligman.[1]

In this series of cases, the original grading was:

Oiliness		*Acne*	
Grade	*No. Patients*	*Grade*	*No. Patients*
1	1	1	3
2	7	2	16
3	16	3	11
4	6	4	0

Standard therapeutic measures were prescribed as indicated for each patient: Use of hexachlorophene soaps, lotions for day and/or nighttime use, therapeutic shampoos, tetracycline, ultraviolet and supplemental Vitamin A were among those employed.

In addition to the standard treatment specifically prescribed, each patient was instructed to cleanse one side of the face with the experimental pad and the other side with a placebo pad three times daily. The placebo pad was saturated with tap water. Experimental and placebo pads were identical in appearance and were dispensed in identical containers.

In 13 cases the procedure was varied to allow occasional use of placebos for both sides, experimental pads for both sides, or a switch in the sides of the

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*Therapads, Fuller Pharmaceutical Company, Minneapolis.

From the Division of Dermatology, Department of Medicine, University of California School of Medicine, San Francisco.

Submitted July 1, 1963.

TABLE 1.—*Results with Experimental Pad as Compared with Placebo Pad in Reduction of Oiliness*

Week of Therapy	No. Patients Observed	Clinical Improvement			Average Clinical Improvement (Per Cent)	
		Greater With Experimental Pad	Greater With Placebo Pad	No Significant Difference	Exper. Pad	Placebo
1	24	21	0	3	59.4	38.3
2	20	19	0	1	63.0	43.5
3	20	19	0	1	74.8	55.8
4	12	8	0	4	73.3	57.1
5	18	11	0	7	82.2	68.1
9 - 10	11	5	0	6	80.9	73.6

TABLE 2.—*Results with Experimental Pad as Compared with Placebo Pad in Control of Acne*

Week of Therapy	No. Patients Observed	Clinical Improvement			Average Clinical Improvement (Per Cent)	
		Greater With Experimental Pad	Greater With Placebo Pad	No Significant Difference	Exper. Pad	Placebo
1	24	16	3	5	42.7	31.3
2	20	16	1	3	45.5	31.3
3	20	14	0	6	58.8	46.3
4	12	8	0	4	59.6	47.1
5	18	10	0	8	65.3	53.7
9 - 10	11	7	0	4	71.4	62.3

TABLE 3.—*Results on Switching Between Experimental Pad and Placebo in Control of Oiliness of Skin*

Change from Placebo to Experimental Pad	
Improved	8
No Change	0
Worse	0
Change from Experimental Pad to Placebo	
Improved	0
No Change	1
Worse	4

TABLE 4.—*Results of Switching Between Experimental Pad and Placebo in Control of Acne*

Change from Placebo to Experimental Pad	
Improved	8
No Change	0
Worse	0
Change from Experimental Pad to Placebo	
Improved	0
No Change	1
Worse	4

face being treated with the experimental pad and the placebo.

At each visit of the patient to the office, changes in degree of oiliness and severity of acne were noted for each side of the face and recorded as a per cent decrease in oiliness and per cent improvement of acne. Improvement in either category was considered significant only if the observable difference was 10 per cent or more.

RESULTS

Routine use of the experimental pads produced beneficial responses both in reducing skin oiliness and in clinical improvement of the acne (Table 1). Comparative results in clinical improvement of acne are shown in Table 2.

Tables 3 and 4 show the results when the mode of therapy was switched from one side of the face to the other or on one side alone.

DISCUSSION

Routine use of the experimental pads for daytime skin cleansing produced a much more rapid decrease in oiliness and faster clinical improvement of the acne than was achieved with the placebo. The differences in response between the two sides of the face were pronounced in most cases, particularly during the first five or six weeks of therapy. This is further borne out by the improvement noted among patients switched from placebo to experimental pads (Tables 3 and 4), and by better recovery after flare-ups for the side treated with the medicated pad.

It is noteworthy, however, that the significant results seen initially tended to even out in most cases as therapy continued and all aspects of the treatment program began to take effect.

No untoward side effects were associated with use of the medicated pads. The pads were well accepted by the patients. Ten patients commented that the pads caused a mild "burning" sensation; three felt this was somewhat objectionable; one complained that the alcohol fumes "burned" his eyes. However, all these patients indicated the medicine was proving beneficial and even the latter patient preferred the experimental pad because he felt its therapeutic action was superior.

There are indications that the experimental pads are well suited for skin cleansing after surgical dermabrasion when standard acne therapy would be too stimulating. Two such instances occurred in this series of patients and results in both were good.

Prescribing the medicated pads was a definite aid in encouraging patients to cleanse the face regularly during the day. All of them seemed to appreciate the simplicity and convenience of the pads. It also was my impression that, by stepping up the speed of response to standard acne therapy, the pads provided a psychological lift to most patients and stimulated greater patient cooperation for the total treatment program.

48 Park Plaza Drive, Daly City, California 94015.

REFERENCES

1. Pillsbury, D. M., Shelley, W. B., and Kligman, A. M.: Dermatology, W. B. Saunders Co., Philadelphia, 1956.

2. Sulzberger, M. B.: Evaluation of therapeutic agents on the human skin: Method of simultaneous symmetrical paired comparisons (editorial), Clin. Pharmacol. Ther, 3:1-4, 1962.

The Q Wave in L III and aVF of the Electrocardiogram

A Vectorcardiographic Analysis with the Use of the Frank System

ALBERTO BENCHIMOL, *M.D.*, MARK W. ROBERTS, *M.D.*, and E. GREY DIMOND, *M.D.*, La Jolla

A COMMON PROBLEM in electrocardiography is presented by the presence of a Q wave in Lead III and/or aVF: Does it or does it not indicate an inferior myocardial infarction? Frequently, in inferior myocardial infarction, the Q wave decreases in amplitude and duration after the acute phase, to the point that it no longer satisfies the criteria for this diagnosis.[15] Several rules have been established to interpret the significance of the Q wave in these leads. All of them are based on configuration, magnitude and duration of the Q wave.* With vectorcardiography, it was hoped that this problem might be solved, especially with the corrected orthogonal lead systems.

The present study was undertaken in order to test the value of vectorcardiography in the study of the Q wave in L III and aVF of the electrocardiogram with the use of a Frank lead system.

MATERIAL AND METHODS

Seventy-three consecutive patients were studied. The criteria for selection were based entirely on the presence of a Q wave in Lead III and/or aVF and the absence of abnormalities characteristic of myocardial infarction in other leads. The presence of a Q wave in Lead II was not a requirement for inclusion of a patient in this study. All patients had a 12 lead electrocardiogram (ECG) recorded with a direct-writer Sanborn electrocardiographic machine. All patients had sinus rhythm; those with bundle-branch block were excluded.

The vectorcardiograms (VCG) were recorded by use of a Hart Electronics Model PV3 vectorcardiographic machine.† The loops were photographed from the oscilloscope with a Polaroid® camera, using a 3,000 speed polaroid land film.

• Seventy-three consecutive patients with a Q wave in Lead III and aVF in the electrocardiogram were studied. Vectorcardiograms were recorded with the use of the Frank system.

In 32 cases the ECG's were compatible with the diagnosis of an inferior myocardial infarction based on a Q wave in Lead III and/or aVF greater than 0.04 second duration and greater than 25 per cent of the amplitude of the R wave. In this group, there were 16 patients with coronary disease and the VCG confirmed the electrocardiographic diagnosis of an infarction in 14 cases. In 13 of the other 16 cases without history of coronary disease the VCG did not suggest the presence of an infarction.

In all 17 cases with questionable electrocardiographic diagnosis of an inferior infarction, and without history of coronary disease, the VCG denied the presence of an infarction. In 18 cases with small Q III or Q aVF the VCG's were within normal limits. In two cases with normal Q III and Q aVF the VCG's did not detect the presence of an infarction in both cases.

The vectorcardiographic diagnosis of an inferior myocardial infarction was based on the superior orientation (at or above 360 degrees) of the 10, 20, 25 and 30-msec vectors in the frontal plane, superior displacement of the maximum QRS vector and clockwise rotation. In the left sagittal plane the 10, 20, 25 and 30-msec vectors were oriented at or above 180 degrees with the loop rotating counterclockwise.

The data presented suggest that vectorcardiography is a useful adjunct to electrocardiography in the diagnosis of an inferior myocardial infarction.

The Frank electrode system was employed, using the 5th intercostal space for placement of the precordial electrodes. [2,5,6,11] The VCG's were recorded at or near the same time as the ECG's.

All patients had still loops recorded in the frontal, left sagittal and horizontal planes. In addition to the still loops, running loops at various speeds were recorded in order to provide a better analysis of the initial and terminal components of the QRS vector. The loops were interrupted every 2 milliseconds

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*See References Nos. 1, 3, 4, 7, 9, 10, 13, 14, 16, 19, 20, 22.

†Hart Electronics, Pasadena.

From the Institute for Cardiopulmonary Diseases, Scripps Clinic and Research Foundation, La Jolla.

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Submitted August 8, 1963.

(msec) and 1 millivolt standardization was recorded with each loop.

The amplitude and duration of the Q wave in Leads III and aVF of the ECG's were measured.

The following measurements were made in the frontal and left sagittal planes of the VCG's: Rotation of the QRS loop, presence or absence of "bites," and special attention was paid to the 10, 20, 25, 30 and 40-msec QRS vectors and the maximum deflection of the QRS vector. The magnitude in millivolt and duration in milliseconds in each of these vectors was recorded. Although the horizontal loops were reviewed, no measurements were obtained of the various vectors, since the abnormalities of an inferior myocardial infarction are not reflected in this plane. The Helm system was used to express the direction of the vectors.

Based solely on the analysis of the ECG's, the patients were divided into the following groups.

Group 1—A Q wave in Lead III and/or aVF which was equal or greater than 25 per cent of the amplitude of the R wave or equal or greater than 0.04 second in duration. The great majority of these cases also had Q waves in Lead II. Thirty-two patients satisfied these criteria, and the ECG's were considered in keeping with the diagnosis of inferior myocardial infarction.*

Group 2—A Q wave in Lead III and/or aVF equal to or greater than 0.04 second, but less than 25 per cent of the amplitude of the R wave or the reciprocal Q wave in Lead III and/or aVF with an amplitude equal to or greater than 25 per cent of the R wave, but less than 0.04 second duration. Twenty-one patients satisfied these criteria, and the ECG's were considered suggestive but not necessarily characteristic of an inferior myocardial infarction.

Group 3—A Q wave in Lead III and/or aVF, less than 0.04 second in duration and less than 25 per cent of the amplitude of the R wave. Twenty patients satisfied these criteria, and the ECG's were considered within normal limits. The Q waves in these leads were interpreted as not characteristic of an inferior myocardial infarction.

After the ECG's and VCG's had been analyzed, the hospital records were reviewed for the presence or absence of history of coronary disease. Only well documented cases were accepted.

RESULTS

Group 1—In this group, 16 of 32 patients had history of coronary heart disease manifested by a documented myocardial infarction in 13 and by angina pectoris in three. Seven of the above 13 with myocardial infarction also had angina pectoris.

Group 1A—There were 16 patients in this subgroup and none had a history of coronary disease. In only three cases was the frontal and sagittal plane VCG suggestive of an inferior myocardial infarction.

The range and average of the direction and magnitude of the 10, 20, 25, 30 and 40-msec vectors and of the maximum deflection vector in the frontal and sagittal planes are illustrated in Tables 1 and 2. Figure 1 illustrates the frequency of distribution of the 25 and 30-msec vectors in the frontal and sagittal planes.

Fourteen cases had clockwise and two had counterclockwise rotation in the frontal plane. The maximum deflection vector had an average direction of 18 degrees and was directed inferiorly in all but one case (Figure 2).

In the sagittal plane, counterclockwise rotation was found in 13 cases, clockwise in one case and figure-of-eight in two cases. The 10-msec vector was oriented superiorly in all cases. The maximum deflection vector had an average direction of 54 degrees.

Of the 32 patients in Group 1, 16 (Group 1A) had no history of coronary artery disease—represent 50 per cent electrocardiographic over-diagnosis of inferior myocardial infarction. The vectorcardiographic over-diagnosis of inferior myocardial infarction was 9.3 per cent—3 of 32 cases. (We are using over-diagnosis to indicate that there was no clue by history or previous electrocardiograms.)

Group 1B—There were 16 patients in this subgroup and all had a history of coronary heart disease. In two cases, the VCG did not confirm the presence of an inferior myocardial infarction (12.5 per cent).

In the frontal plane all patients with one exception (counterclockwise) had clockwise rotation. The 10-msec vector was oriented superiorly—that is, above the zero level— in all cases but one. The 30-msec vector was directed superiorly in 12 cases and the 40-msec vector was directed superiorly in four cases. The maximum deflection vector was directed inferiorly in 12 cases.

In the left sagittal plane, 13 patients had counterclockwise, two had clockwise and one had figure-of-eight rotation. The 10-msec vector was oriented superiorly in all cases. The 20-msec and 30-msec vectors were directed superiorly in 11 cases and 8 cases respectively. The maximum deflection vector was directed inferiorly in the majority of cases, the average direction being 86 degrees. This vector had an indeterminate direction in two cases (round loop).

The most consistent vectorcardiographic abnormality in this group with coronary disease was a superior orientation of the 10, 20, 25, and 30-msec vector above the zero degree in the frontal plane

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*See References Nos. 1, 3, 4, 7, 9, 10, 13, 14, 16, 19, 20, 22.

TABLE 1.—*Frontal plane: Range and averages of the direction and magnitude 10, 20, 25, 30 and 40-millisecond (msec) vectors and of the maximal deflection vector in the frontal plane*

		10 msec-vector				20 msec				25 msec		30 msec				40 msec				Maximal Deflection Vector		Rotation C	Rotation CC
		Direction Degree		Magnitude Millivolt		Direction Degree		Magnitude Millivolt		Direction Degree		Direction Degree		Magnitude Millivolt		Direction Degree		Magnitude Millivolt		Direction Degree		No. of	No. of
		Range	Mean	Range	Mean	Range	Mean	Range	Mean	Range	Mean	Range	Mean	Range	Mean	Range	Mean	Range	Mean	Range	Mean	Cases	Cases
Group I	A—16 Cases Non-Coron.	208-360	295	0-0.5	0.23	30-360	331	0.2-2.1	0.66	360-30	349	320-45	9	0.1-2.8	1.01	222-130	38	0.2-2.3	0.82	240-120	50	14	2
32 Cases	B—16 Cases Coron.	225-347	227	0.1-0.4	0.24	20-355	309	0.2-0.8	0.54	270-358	322	35-355	351	0.4-1.2	0.85	362-70	23	0-2.2	0.8	310-180	10	15	1
Group II	A—17 Cases Non-Coron.	225-12	295	0.1-0.8	0.21	270-30	354	0.1-0.9	0.47	325-35	10	310-30	22	0.5-1.2	1.01	272-105	53	0.4-2.2	1.01	230-120	34	16	1
21 Cases	B— 4 Cases Coron.	235-340	276	0.1-0.2	0.12	265-3	312	0.1-0.9	0.42	340-25	360	330-35	10	0.4-1.8	1.25	2-55	26	0.6-1.5	0.95	5-65	38	4	0
Group III	A—18 Cases Non-Coron.	215-12	288	0.1-0.5	0.19	250-64	6	0.1-1.2	0.56	5-70	25	360-45	31	0.2-2.4	1.23	20-130	58	0.8-1.9	1.11	10-100	38	18	0
20 Cases	B— 2 Cases Coron.	335-325	330	0.2-0.1	0.15	11-15	13	0.7	0.7	14-22	18	19-38	28	1.3-1.5	1.4	15-55	35	0.7-1.5	1.1	30	30	2	0

TABLE 2.—*Sagittal plane: Range and averages of the direction and magnitude 10, 20, 25, 30 and 40-millisecond (msec) vectors and of the maximal deflection vector in the sagittal plane*

		10 msec				20 msec				25 msec		30 msec				40 msec				Maximal Deflection Vector		Rotation C	Rotation CC
		Direction Degree		Magnitude Millivolt		Direction Degree		Magnitude Millivolt		Direction Degree		Direction Degree		Magnitude Millivolt		Direction Degree		Magnitude Millivolt		Direction Degree		No. of	No. of
		Range	Mean	Range	Mean	Range	Mean	Range	Mean	Range	Mean	Range	Mean	Range	Mean	Range	Mean	Range	Mean	Range	Mean	Cases	Cases
Group I	A—16 Cases	270-26	200	0.1-0.4	0.26	325-14	178	0.2-1.2	0.48	220-10	125	360-10	150	0.3-2.6	0.76	4-360	115	0.2-2.3	0.82	5-240	54	1+*	13
32 Cases	B—16 Cases	215-332	225	0.1-0.6	0.31	33-250	196	0.2-1.2	0.56	65-360	191	6-253	144	0.3-1.4	0.73	13-300	104	0-2.2	0.89	20-310	86	2+*	12
Group II	A—17 Cases	170-285	230	0.1-0.4	0.19	10-325	171	0-0.9	0.42	25-240	158	12-260	108	0.3-1.5	0.67	2-347	50	0.4-2.2	1.01	10-350	62	3	13
21 Cases	B— 4 Cases	200-250	220	0.1-0.3	0.2	183-100	154	0.2-0.4	0.3	130-190	163	58-147	98	0.3-1.0	0.70	20-105	50	0.6-1.5	0.95	5-65	38	0	4
Group III	A—18 Cases	90-230	200	0-0.4	0.20	95-225	157	0.2-0.9	0.39	85-190	130	53-162	98	0.2-2.4	0.73	12-120	55	0.4-1.9	1.11	10-86	43	1†	17
20 Cases	B— 2 Cases	185-200	192	0.2-0.3	0.25	150-185	167	0.3-0.4	0.35	88-120	104	67-90	78	0.5-0.7	0.6	38-45	41	0.7-1.5	1.1	30	30	0	2

*Two, Figure 8. †Figure 8.

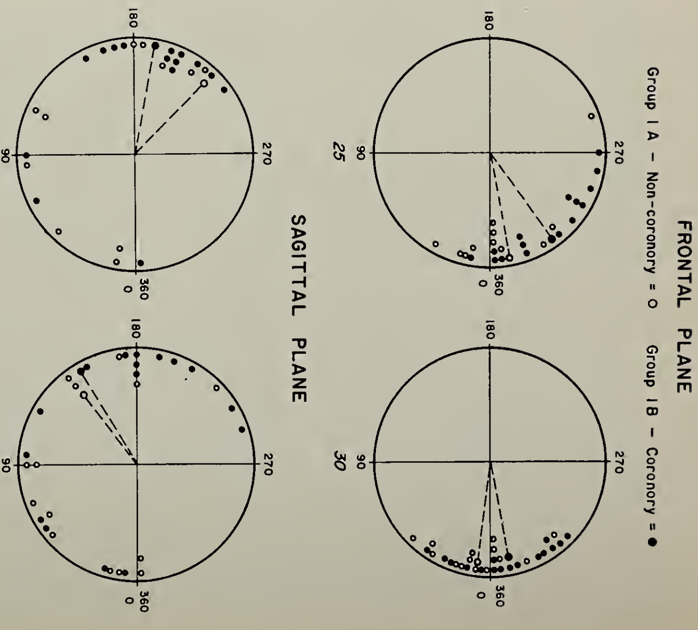


Figure 1.—Group 1.—Frequency distribution of the 25 and 30-msec vectors in the frontal and sagittal planes. The interrupted lines represent the average values. Compare with Figures 5 and 7.

with clockwise rotation. These findings were also associated with a superior displacement of the maximum deflection vector. In the sagittal plane, the most consistent findings for the diagnosis of an inferior myocardial infarction was the superior orientation of the 10, 20, 25, and 30-msec vectors above 180 degrees with counterclockwise rotation (Figures 3 and 4).

Group 2—There were 21 patients in this group.

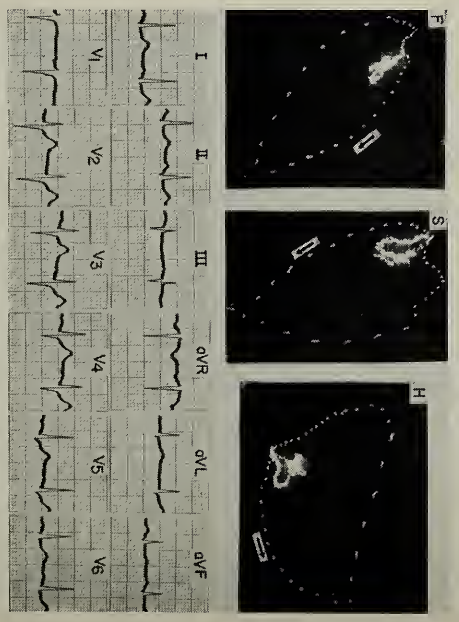


Figure 2.—Group 1A—Electrocardiogram and vectorcardiogram in a 49-year-old man without history of myocardial infarction. Note large Q waves in L III. The vectorcardiogram is within normal limits. The arrows in all illustrations indicate the direction of the loop. F=frontal plane; S=sagittal plane; H=horizontal plane.

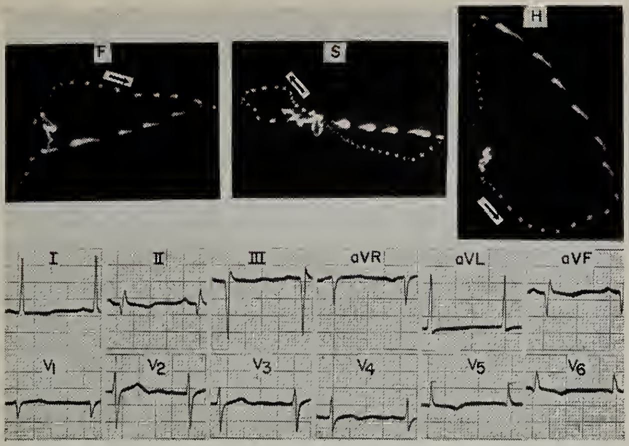


Figure 3.—Group 1B.—Electrocardiogram and vectorcardiogram in a 68-year-old man with history of myocardial infarction. Note the large Q waves in L II, L III and aVF. The vectorcardiogram is typical of an inferior myocardial infarction. The 10, 20, 25 and 30-msec vectors in the frontal plane are oriented superiorly. Note figure-of-eight rotation in the sagittal plane with the initial portion of the loop rotating counterclockwise.

Group 2A—There were 17 patients in this subgroup and none had history of coronary disease. In no case was the VCG indicative of an inferior myocardial infarction. In two cases the frontal plane loop was suggestive; however, the sagittal plane 30-msec vector in both was directed below 180 degrees. Neither case was thus considered characteristic of inferior myocardial infarction.

The range and average of the direction and magnitude of the 10, 20, 25, 30 and 40-msec vectors and of the maximum deflection vector in the frontal and sagittal planes are illustrated in Tables 1 and 2. Figure 5 illustrates the frequency distribution of the

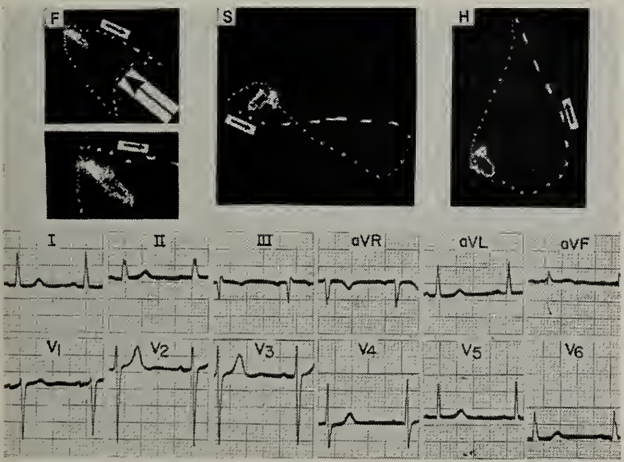


Figure 4.—Group 1B—Electrocardiogram and vectorcardiogram in a 77-year-old woman with history of myocardial infarction. Note large Q waves in L III and compare with Figure 2. There is no Q wave in aVF. The frontal loop shows normal orientation of the 10, 20, 25 and 30-msec vectors. Note a large bite in the mid-portion of the QRS loop (arrow). Observe the rotation of the sagittal loop and compare with Figure 3. This vectorcardiogram is compatible with the diagnosis of an inferior myocardial infarction.

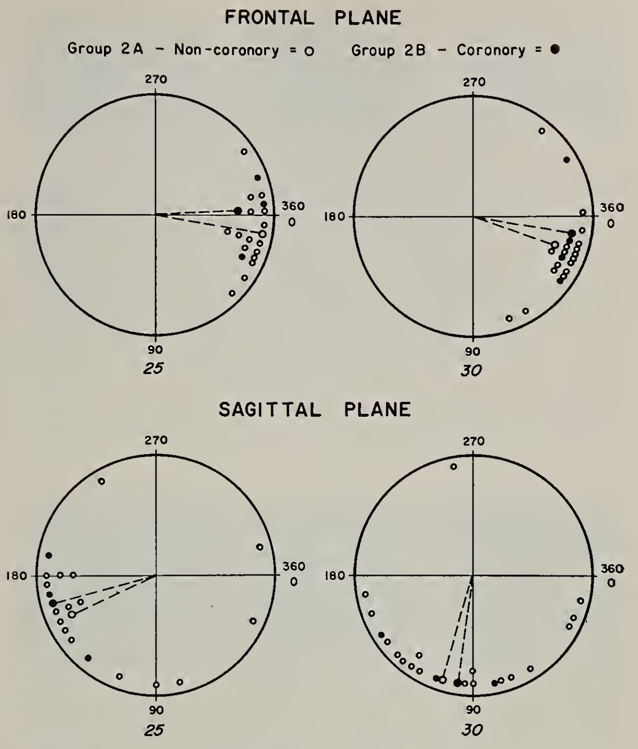


Figure 5.—Group 2—Frequency distribution of the 25 and 30-msec vectors in the frontal and sagittal planes. The interrupted lines represent the average values. Compare with Figures 1 and 7.

(Figure 6 follows on Page 172)

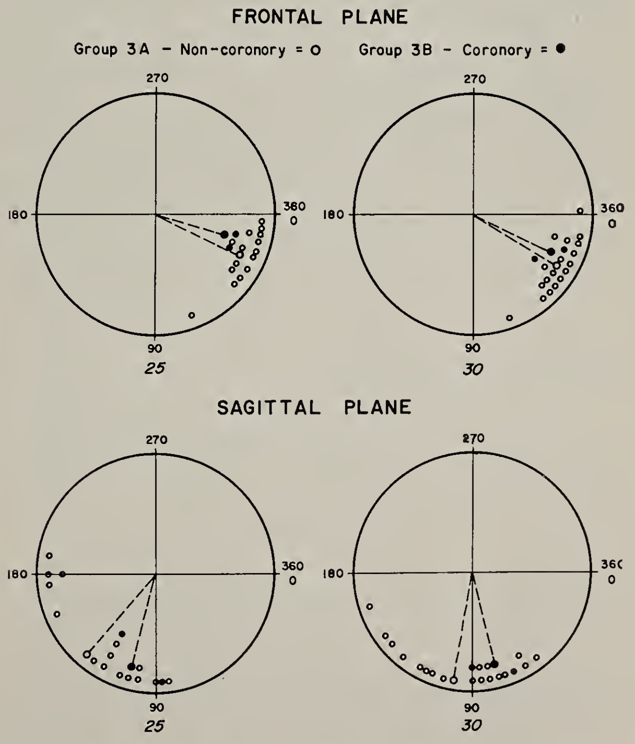


Figure 7.—Group 3—Frequency distribution of the 25 and 30-msec vectors in the frontal and sagittal planes. The interrupted lines represent the average values. Compare with Figures 1 and 5.

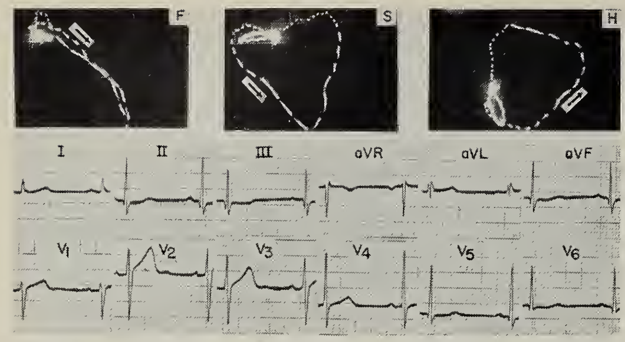


Figure 6.—Group 2B—Electrocardiogram and vectorcardiogram in a 63-year-old man with history of myocardial infarction. Note the small Q waves in L III and aVF. The vectorcardiogram is not suggestive of an inferior myocardial infarction.

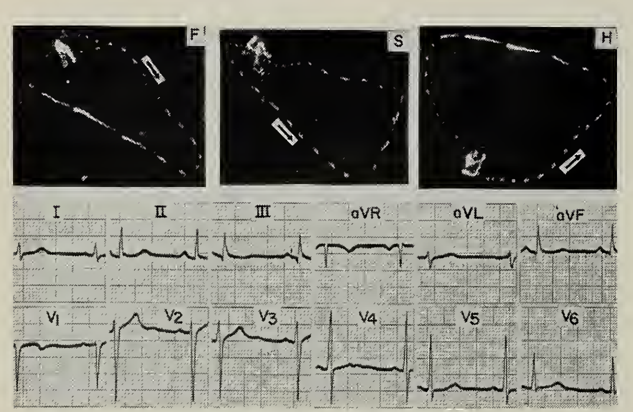


Figure 8.—Group 3B—Electrocardiogram and vectorcardiogram in a 51-year-old man with history of myocardial infarction. Note the small Q waves in L III. The vectorcardiogram does not suggest the diagnosis of an inferior myocardial infarction.

direction of the 25 and 30-msec vectors in the frontal and sagittal planes.

In the frontal plane 16 patients had clockwise and one case counterclockwise rotation. The 20 and 30-msec vectors were oriented superiorly in eight and three cases respectively. The maximum deflection vector had an average direction of 67 degrees and in only two cases was it directed superiorly.

In the sagittal plane, the rotation was counterclockwise in all but one case.

The 20 and 30-msec vectors were oriented superiorly in six and three cases respectively. The maximum deflection vector had an average of 93 degrees with superior direction in only two cases.

Group 2B—The four patients in this subgroup all had history of coronary disease. In no case was the VCG considered diagnostic of an inferior myocardial infarction.

The VCG in the frontal plane was suggestive (but not diagnostic) of an inferior infarct in only one case in which the 10, 20, 25, and 30-msec vectors were directed above 360 degrees with clockwise rotation and a superior displacement of the QRS vector. In this case, the maximum QRS vector was 14 degrees. However, the 25 and 30-msec vectors in the sagittal plane were at 170 degrees and 147 degrees respectively and, therefore, did not substantiate the frontal plane findings.

The remaining three cases showed a 30-msec vector below zero degree with clockwise rotation of the frontal loop (Figure 6).

Group 3—There were 20 cases in this group.

Group 3A—There were 18 cases in this subgroup and none had a history of coronary disease. The VCG was normal in all.

The range and averages of the 10, 20, 25, 30 and 40-msec vectors and of the maximum deflection vector in the frontal and sagittal planes are illustrated in Tables 1 and 2. Figure 7 illustrates the frequency distribution of the 25 and 30-msec vectors in the frontal and sagittal planes.

The frontal loop had clockwise rotation in all cases. Superior orientation of the 10 and 20-msec vectors was found in three and six cases respectively. The 25, 30 and 40-msec vectors were inferiorly oriented in all cases. The maximum QRS deflection vector had an average direction of 38 degrees.

In the sagittal plane the rotation was counterclockwise in 17 cases and a figure-of-eight in one case.

The 25-msec vector was directed superiorly in three cases. The 30 and 40-msec vectors were directed inferiorly in all cases. The maximum deflection vector had an average direction of 43 degrees and in two cases the maximum deflection vector was undetermined.

Group 3B—In the two cases in this subgroup there was history of coronary disease. Both had clockwise rotation in the frontal plane. In neither was the VCG suggestive of inferior myocardial infarction.

The 10-msec vector was superiorly oriented in both cases with an average direction of 330 degrees. The 20, 25, 30 and 40-msec vectors were directed inferiorly in both cases, and in both the maximum QRS deflection vector had an average direction of 29 degrees and was directed inferiorly.

In the sagittal plane, both patients had counterclockwise rotation. The 10-msec vector was directed superiorly in both cases. The 20-msec vector had an average direction of 167 degrees and in one case it was directed at 185 degrees. The 25, 30 and 40-msec vectors were directed inferiorly in both cases. The maximum deflection vector was at 30 degrees in one case and in the other case it was undetermined.

In the two patients with history of coronary disease and with normal ECG's, the VCG's did not detect the presence of an infarct (Figure 8).

The magnitude of the 10, 20, 25, 30 and 40-msec vectors were not significantly different in the three groups studied.

DISCUSSION

Despite the fact that there are sound practical reasons for distinguishing between electrocardiography and vectorcardiography, it is important to recognize that both methods record potential variations of cardiac electrical activity and that they represent only different views of this same activity. However, it is equally important to appreciate that the high resolution of the vectorcardiographic units, the accessibility of information and the distribution of electrodes in the body surface having different electrical resistances, appears to make vectorcardiography a useful additional adjunct to electrocardiography. In some circumstances, it provides information which may not be present in electrocardiograms. The inertia of the direct writer recorder and blurring of the baseline make for another reason that electrical information may be lost with routine electrocardiography.

The observations reported here, like those of other investigators[1,7,10,14] show that it is impossible to separate completely, by the ECG, cases with inferior myocardial infarction from those without infarction in which Q waves are present in L III and aVF. Although there was some overlapping in the measurements made in the VCG's (Figures 1, 5 and 7), the findings suggest that vectorcardiography appears to be a useful tool in making this differentiation in the majority of cases. The VCG's are most useful in cases in which a Q wave of a significant magnitude is recorded in L III and/or aVF of the ECG. In these circumstances the VCG's appear to separate the infarction cases from the non-infarction cases better than the ECG. This is documented by the fact that in Group 1B, all 16 cases with history of coronary disease had the electrocardiographic diagnosis confirmed by the VCG. On the other hand, in 13 of the 16 cases of Group 1A with prominent Q III or aVF, and with absence of history of coronary disease, diagnosis of an inferior myocardial infarction was not substantiated by the VCG.

In addition, the diagnosis of an inferior myocardial infarction was questionably present in the ECG of 21 cases in Group 1. In all of the 17 cases (Group 2A) without history of coronary disease, the VCG excluded the diagnosis of an inferior myocardial infarction. In the remaining four cases with coronary disease and with questionable electrocardiographic findings (Group 2B) the VCG did not support the diagnosis of an infarction. Furthermore, in all of the 18 cases in Group 3A with no history of myocardial infarction (small Q waves in L III and aVF), the VCG's substantiated the electrocardiographic diagnosis. In the remaining two cases of this group, in which there was no history of coronary disease, both the ECG and VCG were within normal limits.

It is thus evident that the VCG's are most helpful in the presence of a Q wave in L III and aVF of the ECG, and least useful when no Q wave or when a small Q wave is present in the ECG.

The most useful criterion, and the one which provided the most reliable vectorcardiographic diagnosis for an inferior myocardial infarction was the superior orientation above the zero degree of 10, 20, 25 and 30-msec vectors in the frontal plane with the superior displacement of the maximum QRS vector, as has been suggested by other investigators.[8,12,18,21] The clockwise rotation of the frontal loop was also of importance since it helped to differentiate an inferior myocardial infarction from the superiorly oriented vectors of left ventricular hypertrophy. In the presence of left ventricular hypertrophy, although these vectors may be oriented superiorly, the frontal loop almost invariably rotates counterclockwise.

The presence of "bites" or notches alone was not in itself diagnostic of an infarction. However, in cases with the 10, 20, 25 and 30-msec vectors oriented superiorly, the "bites" or notches helped to substantiate the presence of an infarction. (Figure 4.)

In addition to the abnormalities in the frontal plane, the sagittal plane was of significance in the diagnosis of an inferior infarction.[17] For this diagnosis to be made with confidence, the 10, 20, 25 and 30-msec vectors should be oriented superiorly above 180 degrees and with counterclockwise rotation of the QRS loop. If the loop rotates in a figure-of-eight, the initial component should rotate counterclockwise. If these criteria are satisfied, the possibility of over-diagnosis of inferior myocardial infarction is greatly reduced.

In conclusion, vectorcardiography appears to be a useful technique in the diagnosis of an inferior myocardial infarction. It is most helpful when a Q wave is present in L III and/or aVF of the ECG.

Institute for Cardiopulmonary Diseases, Scripps Clinic and Research Foundation, 476 Prospect Street, La Jolla, California 92038 (Benchimol).

REFERENCES

1. Bayley, R. H.: The significance of the duration of Q3 with respect to coronary disease, Am. Heart J., 18:308, 1939.

2. Bristow, J. D.: A study of the normal Frank vectorcardiogram, Am. Heart J., 61:242, 1962.

3. Burch, G. E., Horan, L., Albildskov, J. A., and Cronvich, J. A.: A study of the spatial vectorcardiogram in subjects with posterior myocardial infarction, Circulation, 12: 418, 1955.

4. Edeiken, J., and Wolferth, C. C.: The incidence and significance of the deep Q wave in L III of the electrocardiogram, Am. Heart J., 7:695, 1932.

5. Forkner, C. E., Jr., Hugenholtz, P. G., and Levine, H. D.: The vectorcardiogram in normal young adults: Frank lead system, Am. Heart J., 62:237, 1961.

6. Frank, E.: An accurate, clinically practical system for spatial vectorcardiography, Circulation, 13:737, 1956.

7. Goldberger, E.: The differentiation of normal from abnormal Q waves, Am. Heart J., 30:341, 1945.

8. Hugenholtz, P. G., Forkner, C. E., Jr., and Levine, H. D.: A clinical appraisal of the vectorcardiogram in myocardial infarction, Circulation, 24:825, 1961.

9. Lowen, H. J., and Pardee, H. E. B.: Unipolar extremity leads in records with large Q3, Ann. of Int. Med., 31:456, 1959.

10. Mazer, M., and Reisinger, J. A.: Criteria for differentiating deep Q3 ECG's from normal and cardiac subjects, Am. J. Med. Sci., 206:48, 1943.

11. McCall, B. W., Wallace, A. G., and Estes, E. G.: Characteristics of the normal vectorcardiogram recorded with the Frank lead system, Am. J. Cardiol., 10:514, 1962.

12. Milnor, W. R., Genecin, A., Talbot, S. A., and Newman, E. V.: Vectorcardiographic study of Q3 deflection in cases of myocardial infarction and in normal subjects, Bull. John Hopkins Hosp., 89:281, 1951.

13. Myers, G. B., and Oren, B. G.: Use of aVF in differentiation of normal from abnormal Q wave in L III, Am. Heart J., 29:708, 1945.

14. Myers, G. B., and Oren, B. G.: The use of augmented unipolar left leg lead in the differentiation of normal from abnormal Q wave in standard L III, Am. Heart J., 29:708, 1945.

15. Pappas, M. P.: Disappearance of pathological Q waves after cardiac infarction, Brit. Heart J., 20:123, 1958.

16. Pardee, H. E. B.: The significance of an ECG with a large Q in L III, Arch. Int. Med., 46:470, 1930.

17. Pearce, M. L., and Chapman, M. G.: The evaluation of Q aVF by the initial sagittal QRS vectors in 70 autopsied cases, Am. Heart J., 53:782, 1957.

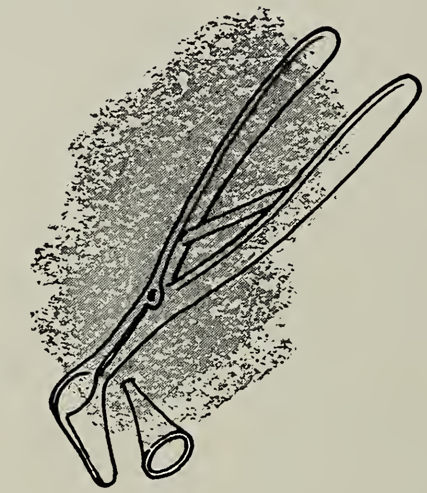
18. Walsh, T. J., Tiongson, P. M., Stoddard, E. A., and Massie, E.: The vectorcardiographic QRS loop findings in inferoposterior myocardial infarction, Am. Heart J., 63:516, 1962.

19. Weisbart, M. H., and Simonson, E.: The diagnostic accuracy of Q3 and related electrocardiographic items for the detection of patients with posterior wall myocardial infarction, Am. Heart J., 50:62, 1955.

20. Wolff, L., Mathur, K. S., and Richman, J. L.: The diagnosis of posterior myocardial infarction, Am. Heart J., 46:21, 1953.

21. Wolff, L., Samartzis, M. D., and Wolff, R.: The vectorcardiogram before and after myocardial infarction. Superimposition of serial loops, Am. Heart J., 62:22, 1962.

22. Ziskin, T.: Clinical significance of ECG's with large Q waves in L III, Arch. Int. Med., 50:435, 1932.



Practical Human Growth Hormone

Preparation and Clinical Use[*]

**W. P. VANDERLAAN, *M.D.*, U. J. LEWIS, *Ph.D.*,[†]
A. E. JONES, *M.D.*,[†] and J. N. FISHER, *M.D.*,[†] La Jolla**

• Human growth hormone was prepared from acetone-dried pituitary powder by hot glacial acetic acid extraction and subsequent precipitation by sodium chloride and cold acetone. The yield was 13 per cent and the preparation was called practical growth hormone in recognition of its complement of corticotropin.

Treatment of two dwarfs with practical growth hormone in aqueous solution, 1 or 2 mg intramuscularly on alternate days, accelerated the growth rate and there were no physical signs or laboratory indications of adrenal stimulation or other adverse effects. The preparation is recommended for its safety, simplicity and relatively good yield.

THE COMPARATIVE biochemistry of growth hormone has come to importance in recent years through the work of Wilhelmi,[23] Beck et al,[2] Knobil and Greep,[7] Raben[13,15] and Li.[8] Raben[14] recently presented his experiences in the treatment of pituitary dwarfism and of other problems involving failure to grow. We report here a method of preparation of human growth hormone adapted from the procedure described by Raden.[15] It has advantages both in greater simplicity and in greater yield and retains the security against contamination provided by hot glacial acetic acid extraction. Safety being an important consideration, some clinical investigators are fearful of the use of otherwise excellent extraction methods. For example, the methods of Wallace and Ferguson,[21] Wilhelmi[22] and Reisfeld et al[17] have very high yields. In addition, we present our method of treatment of a pituitary dwarf over a period of 51 months and a brief experience in the treatment of a girl in whom the cause of dwarfism remains obscure.

METHODS

Preparation of Human Growth Hormone

Human pituitary glands were stored in acetone until 20 grams were accumulated. They were then homogenized with 60 ml of glacial acetic acid and washed into a beaker with the addition of 200 ml of acid. With continuous stirring the mixture was heated to 70° C, and then allowed to cool to room temperature. It was centrifuged for 15 minutes at 20,000 × *g*, and the precipitate was discarded. The supernatant, having a volume of 226 ml, was cooled to 5° C, and 1.13 ml of 5 M NaCl was added, followed by 56.5 ml of chilled acetone. After filtering at 5° C, the precipitate was discarded and the protein in the supernatant was precipitated with 565 ml of chilled acetone. After centrifugation at 20,000 × *g* the supernatant was discarded, and the precipitate was washed with 50 ml of chilled acetone and the washings discarded. The precipitate was dissolved in 40 ml of 0.1 M ammonium formate buffer pH 5.8. After lyophilization the yield in protein was 13 per cent of the whole dried glands. The dried product usually contained approximately 75 per cent protein, the remainder being buffer salts. The concentration of protein was determined by the method of Sutherland and co-workers,[20] using serum albumin as the standard.

Sterilized glassware was used only after the final washing of the precipitate with acetone. The ammonium formate buffer was prepared with sterile water, and sterilized glassware was used for the lyophilization. The dried material was transferred aseptically to a sterilized, screw-cap vial for storage.

To prepare a sample for intramuscular injection, 30 mg (protein) was weighed into a sterile vial (10 ml capacity) and was suspended in 2 ml of sterile water (water for parenterals, U.S.P., containing 0.9 per cent benzyl alcohol.) To effect solution of the sample, 0.5 ml of 0.1 N HCl (0.25 ml of 12 N HCl added to 30 ml of sterile water) was added from a sterile syringe, and the mixture was drawn up and down in the syringe until the solids dissolved. The solution was then transferred to a bottle having a rubber injection cap and containing 15 ml of sterile water (with preservative).

This preparation, which we have called "practical growth hormone" in recognition of its complement

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Division of Endocrinology, Scripps Clinic and Research Foundation, La Jolla.

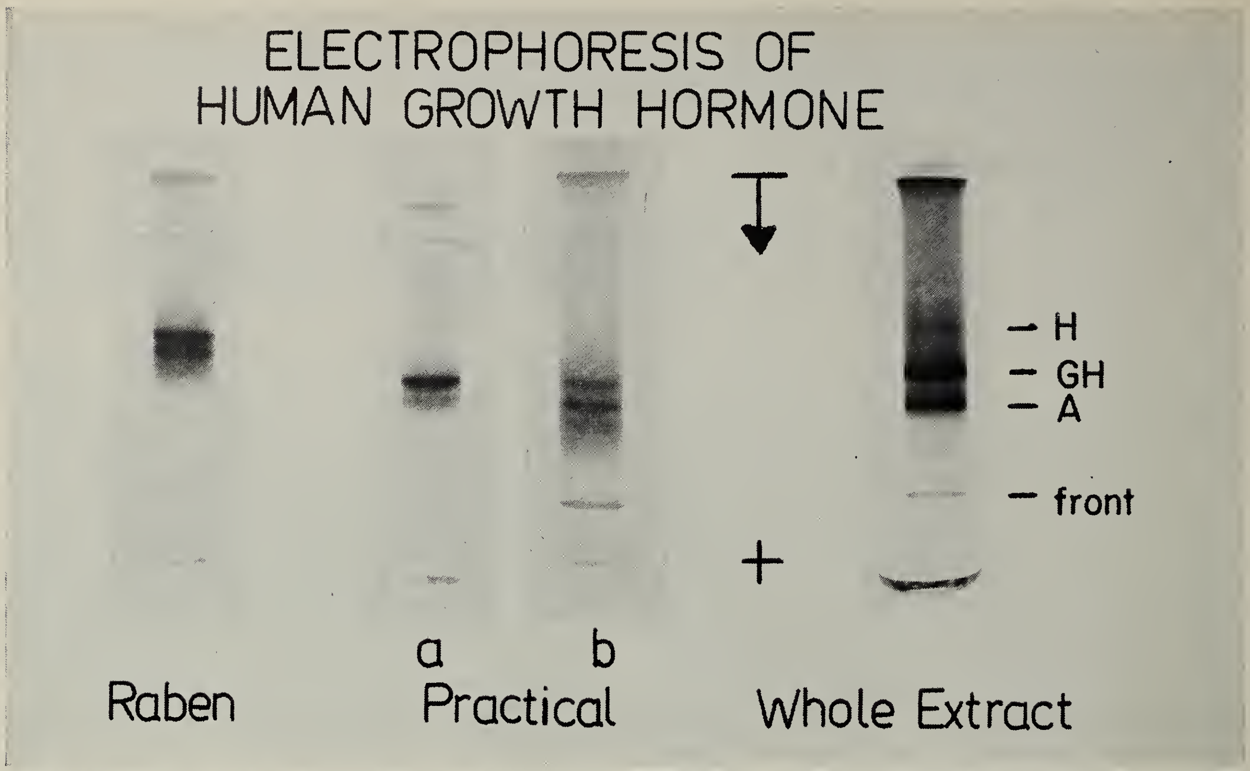

Figure 1.—The results of four studies of human growth hormone by disc electrophoresis carried out at pH 9.0 are shown. The Raben material is shown as having three components, the practical material shows greater homogeneity (a) but after incubation for 48 hours at pH 8.0 (b) shows some degradation, resembling the Raben material. The whole extract of human pituitary gland shows growth hormone in a single heavy band (GH). The band H is hemoglobin and A is albumin. The arrow indicates the direction of motion, and the word *front* indicates the forward moving boundary. The whole extract was made with 0.025 M Na_2CO_3-HCl; pH 10.

of corticotropin, was compared with human growth hormone (Raben) by use of the procedure of disc electrophoresis of Ornstein and Davis.[11] The modification of Reisfeld and coworkers[17] was used for electrophoretic analysis at an acidic pH.

Practical growth hormone was assayed for growth activity by the technique of Greenspan and coworkers,[5] for thyrotropin by McKenzie's method,[10] for corticotropin by that of Sayers and coworkers,[18] and for luteinizing hormone according to Parlow.[12]

Free fatty acids were determined by the method of Dole,[3] 17 hydroxycorticosteroids by the method of Silber,[19] 17 ketosteroids by the method of Drekter,[4] protein-bound iodine by the method of Zak and coworkers,[24] and alkaline phosphatase by a modification of the method by Bodansky.[6]

RESULTS

Analytical

Figure 1 compares the disc electrophoretic pattern of human growth hormone (Raben) with that of the practical growth hormone before and after incubation at pH 8. The electrophoresis was carried out at pH 9. Greater homogeneity was observed in the practical growth hormone than in the Raben material and this appears to be, therefore, due to the avoidance of an alkaline step, in accordance with the observations of Barrett and co-workers[1] and Lewis,[8] who showed that growth hormone degrades under alkaline conditions.

The electrophoretic pattern of the whole pituitary extract showed only two prominent components. The major band (GH in Figure 1) behaved electrophoretically like growth hormone. The second principal component (A) moved slightly ahead of the growth hormone and migrated with the same mobility as albumin. There was smearing of reddish-brown material in the upper portion of the gel, probably due to hemoglobin-haptoglobin complexes. There was one component (H) that migrated as human hemoglobin, however. The high yield of growth hormone from human pituitary glands[21,23,17] is explained by the electrophoretic pattern since apparently the major extractable protein of the gland is growth hormone.

The results of electrophoresis by the adaptation of Reisfeld and coworkers[17] of Ornstein and Davis' method[11] to an acidic pH are shown in Figure 2. In this method the Raben material ran as a single component. The separation of corticotropin and other basic proteins from growth hormone by treatment with oxycellulose is highly suggested by the electrophoretic study of the practical material. The

TABLE 1.—*Data on Treatment and Results, Case 1*

				Treatment						
Date	Age Yr. Mo.	Ht. Inches	Wt. Lb.	Raben Growth Hormone	Practical Growth Hormone	Thyroid USP mg daily	Cortisone mg daily	Testosterone cyclopentyl-propionate mg 2 weeks	Serum Alkaline Phosphatase Bodansky Units	Wrist Bone Age Yr. Mo.
March '43	Birth	21	6+	......	......	......	......	......	......	......
Feb. '56	12 11	49	12	......	......	......	......	......	......	7 6
Sept. '58	15 6	52	....	......	......	......	......	......	3.9	10 0
Nov. '58	15 8	52	92	2 mg/48 hr	......	......	......	......	......	......
Dec. '58	15 9	52½	93	2 mg/48 hr	......	120	10	......	6.4, 5.3	......
March '59	16 ..	53	90	2 mg/48 hr	......	120	10	......	......	11 9
Sept. '59	16 6	54½	95	2 mg/48 hr	......	120	10	......	10, 8.6	......
March '60	17 ..	55½	105	2 mg/48 hr	......	120	10	......	......	......
June '60	17 3	56	105	2 mg/48 hr	......	120	10	......	9.0	12 6
Nov. '60	17 8	56¾	109	4 mg/48 hr	......	120	10	100	6.1	......
March '61	18 ..	57½	111	4 mg/48 hr	......	120	10	100	......	......
June '61	18 3	59½	......	2 mg	......	120	10	100	......	......
Oct. '61	18 7	60	121	......	2 mg	120	10	200	......	14 0
March '62	19 ..	60¾	134	......	2 mg	120	10	200	9.2	......
Oct. '62	19 7	62	137	......	5 mg	120	10	200	7.0	16 6
March '63	20 ..	63	137	......	5 mg	120	10	200	4.9	......

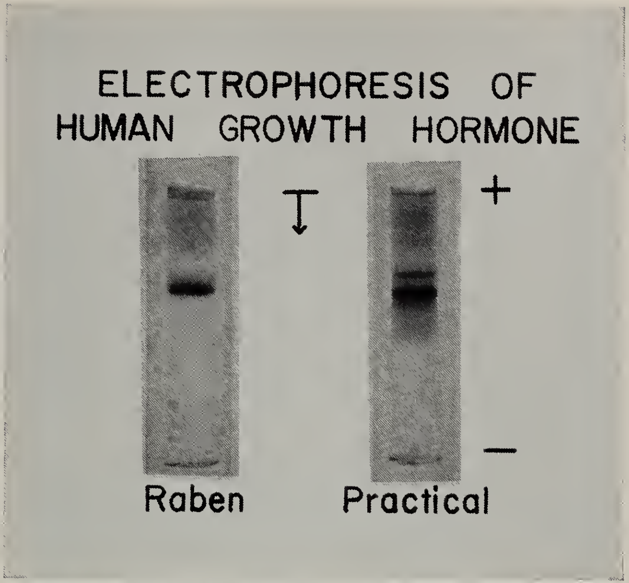

Figure 2.—Electrophoresis at an acidic pH shows human growth hormone prepared by Raben's method as a single component. Failure to remove corticotropin in the practical material is probably reflected in the additional bands seen. The direction of flow between poles is indicated by the arrow.

three components observed in Raben's method during electrophoresis at pH 9 were not received when analyzed at pH 4.3.

The practical material was found to be devoid of thyrotropic activity when 20μg was injected into each mouse. Corticotropin activity was 300 units per milligram and luteinizing hormone was not demonstrable.

Clinical

Case 1. September, 1958, a boy aged 15 years and 6 months was referred to this clinic for evaluation of endocrine status and the problem of headache. He was nearly 52 inches tall, symmetrical, sexually infantile and clinically a pituitary dwarf. This opinion was reinforced by the moderate retardation of bone age (ten years), alkaline phosphatase of 3.9 Bodansky units, I^{131} uptake of 8 per cent in 24 hours, and 17 ketosteroid excretion of 2.3 mg in 24 hours. The patient was discharged until human growth hormone was available. Pituitary glands were collected at autopsy, and the initial preparation of human growth hormone was made by Raben.*

For six weeks human growth hormone (Raben) was administered intramuscularly, 2 mg alternate days without the addition of desiccated thyroid or of cortisone. At the end of six weeks serum protein-bound iodine had fallen from 5.4 to 3.1μg per 100 ml. Alkaline phosphatase activity increased, as recorded in Table 1, and height increased approximately 0.5 inches. Desiccated thyroid and cortisone were prescribed at that time. The pertinent facts on treatment and the response to it are recorded in Table 1. Headache disappeared with treatment.

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*We are indebted for helpful advice and for the initial supply of human growth hormone to Dr. Maurice S. Raben, Boston, Massachusetts.

Pronounced evidence of maturation accompanied growth and the penile size changed to adult proportions due to treatment with testosterone. Although human chorionic gonadotropin, 1500 units per week, was given intramuscularly from January 1960 to August 1961, no growth of testes occurred, and 17 ketosteroid excretion after six months was measured to be 1.8 mg in 24 hours. In October, 1961, practical growth hormone was substituted for the preparation of Raben.

CASE 2. The patient, born October 8, 1954, was first seen in April 1962 for the problem of dwarfism. She was 35½ inches tall, had a span of 34 inches between fingertips with the arms outspread, and weighed 22 pounds. Her parents had moved from Michigan to this area in the misunderstanding that human growth hormone was exclusively available here. She had been extensively investigated in Boston in March and April, 1958, for failure to grow. Examination at that time had disclosed the following: height 29 inches, weight 15 pounds, normal proportions, and, except for mild eczema, no other abnormalities on general examination. Bone age was at the one-year level. Despite extensive examination the basis of failure to grow was not determined.

Physical examination showed acne rosacea and extremely small stature in a bright and alert youngster.

Studies of blood (hemoglobin 11.3 grams per 100 ml), of urine (specific gravity 1.016), alkaline phosphatase activity (5.5 Bodansky units), 17 ketosteroid excretion (0.88 mg in 24 hours) and 17 hydroxycorticosteroid excretion (0.84 mg in 24 hours), protein-bound iodine (6.9 μg per 100 ml) and I^{131} uptake of 20 per cent in 24 hours, failed to clarify the diagnosis. X-ray studies of the skull and long bones showed a bone age of 2 years 6 months, but no other abnormality. Growth hormone assay and sulfation factors in serum were 83 μg per ml and 32, respectively.† Chromosome studies on an aspirate of bone marrow indicated a normal pattern, and buccal and leukocyte studies were chromatin-positive.‡ After the patient had fasted overnight, the free fatty acid concentration in the plasma was 1275 microequivalents per liter, rising to 2150 four hours after the intramuscular injection of 2 mg of practical growth hormone.

In the absence of a diagnosis, empirical treatment with practical growth hormone was begun in dosage of 1.0 mg every 48 hours intramuscularly. In the first month there was no change, and in the next four months there was one full inch of growth and a weight gain to 25¼ pounds.

DISCUSSION

Much emphasis recently has been put on the desirability of purity in the preparation of growth hormone, and the press has carried accounts indicating human use should be deferred to make available all material for structural studies in the hope of eventual synthesis. We disagree. It is our position that proper utilization of available sources of human pituitary glands will allow clinical study to proceed, defining the place of the preparation in therapeutics and alleviating the great and largely avoidable suffering entailed in hypopituitary dwarfism, without seriously encroaching upon chemical studies.

We have described a simple method for the preparation of human growth hormone and the results of its use in two patients. Optimal dosage of the material thus prepared has not been established but growth hormone assay by the tibial technique and our clinical experience indicate it to be comparable in potency to the Raben preparation.

The avoidance of an alkaline step in the procedure probably is of advantage, judging by the higher yields. Failure to remove corticotropin poses a disadvantage for careful metabolic studies, but in clinical observation no evidence has been seen of adrenal stimulation. The intramuscular injection of an aqueous preparation of corticotropin every 48 hours would not be expected to have readily detectable effects.

Some comment may be in order on the patient in Case 1. He has been treated for 51 months with a net gain of 11 inches in height. At the beginning of treatment the goal mutually agreed upon was five feet in height. When he was about 4 feet 9 inches tall, the addition of testosterone was made for several reasons. Our supply of growth hormone was insufficient to maintain the dosage of 4 mg per 48 hours, he was within 3 inches of the goal of treatment for height, and he was at the upper limit of age for the normal appearance of puberal changes. We have also held to an arbitrary decision to have achieved the full growth before the age of 21 on the basis that rapid growth to a reasonable height by this age appears more desirable than the achievement of somewhat greater height at a considerably later date. The greatest rate of growth was observed while he was treated with the larger dose of growth hormone, 4 mg in 48 hours, plus testosterone cyclopentyl-propionate, 100 mg in two weeks.

476 Prospect Street, La Jolla, California 92038 (VanderLaan).

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†These determinations were made through the kindness of Dr. William Daughaday, St. Louis, Missouri.

‡We wish to thank Dr. V. F. Fairbanks, City of Hope Medical Center, Duarte, California, for the chromosome studies.

REFERENCES

1. Barrett, R. J., and Irie, M.: Characterization of human growth hormone and ovine prolactin, Fed. Proc., 21:194, March-April, 1962.

2. Beck, J. C., McGarry, E. E., Dyrenfurth, I., and Venning, E. H.: Metabolic effects of human and monkey growth hormone in man, Science, 125:884, May 3, 1957.

3. Dole, V. P.: A relationship between non-esterified fatty acids in plasma and the metabolism of glucose, J. Clin. Invest., 35:150, Feb. 1956.

4. Drekter, I. J., Heisler, A., Scism, G. R., Stern, S., Pearson, S., and McGavack, T. H.: The determination of urinary steroids, J. Clin. Endocrin. and Metab., 12:55, Jan. 1952.

5. Greenspan, F. S., Li, C. H., Simpson, M. E., and Evans, H. M.: Bioassay of hypophyseal growth hormone: The tibia test, Endocrinology, 45:455, Nov. 1949.

6. Hawk, P. B., Oser, B. L., and Sommerson, W. H.: Modification of the method of Bodansky, Practical Physiological Chemistry, McGraw-Hill, New York, 1954, p. 635.

7. Knobil, E., and Greep, R. O.: Physiology of growth hormone with particular reference to its action in Rhesus monkey and "species specificity" problem, Recent Progr. in Hormone Res., 15:1, 1959.

8. Lewis, U. J.: Enzymatic degradation of growth hormone and prolactin, J. Biol. Chem., 237:3141, Oct. 1962.

9. Li, C. H.: Growth hormone from monkey and human pituitary glands, Cancer, 10:698, July-Aug. 1957.

10. McKenzie, J. M.: The bioassay of thyrotropin in serum, Endocrinology, 63:372, Sept. 1958.

11. Ornstein, L., and Davis, B. J.: Disc electrophoresis, Preprinted by Distillation Products Industries, Rochester, New York, 1962.

12. Parlow, A. F.: Bio-assay of pituitary luteinizing hormone by depletion of ovarian ascorbic acid, Human Pituitary Gonadotropin, A. Albert, Ed., Springfield, Illinois, C. C. Thomas, 1961, p. 300.

13. Raben, M. S.: Human growth hormone, Recent Progr. in Hormone Research, 15:71, 1959.

14. Raben, M. S.: Growth hormone, 1. Physiologic aspects, N.E.J.M., 266:31 and 82, Jan. 4 and Jan. 11, 1962.

15. Raben, M. S.: Preparation of growth hormone from pituitaries of man and monkey, Science, 125:883, May 3, 1957.

16. Reisfeld, R. A., Lewis, U. J., and Williams, D. E.: Disc electrophoresis of basic proteins and peptides on polyacrylamide gels, Nature, 195:281, July 12, 1962.

17. Reisfeld, R. A., Lewis, U. J., Brink, N. G., and Steelman, S. L.: Human growth hormone: Preparations from acetone powder, Endocrinology, 71:559, Oct. 1962.

18. Sayers, M. A., Sayers, G., and Woodbury, L. A.: The assay of adrenocorticotrophic hormone by the adrenal ascorbic acid-depletion method, Endocrinology, 42:379, May, 1948.

19. Silber, R. H., and Porter, C. C.: The determination of 17, 21-dihydroxy-20-ketosteroids in urine and plasma, J. Biol. Chem., 210:923, Oct. 1954.

20. Sutherland, E. W., Cori, C. F., Haynes, R., and Olsen, N. S.: Purification of the hyperglycemic-glycogenolytic factor from insulin and from gastric mucosa, J. Biol. Chem., 180:825, Sept. 1949.

21. Wallace, A. L. C., and Ferguson, G.: Preparation of human growth hormone, J. Endocrinol., 23:285, Dec. 1961.

22. Wilhelmi, A. E.: Comparative biochemistry of growth hormone from ox, sheep, pig, horse and fish pituitaries *in* Hypophyseal Growth Hormone, Nature and Actions, R. W. Smith, Jr., O. H. Gaebler and C. N. H. Long, Editors, McGraw-Hill, New York, 1955, p. 59.

23. Wilhelmi, A. E.: Fractionation of human pituitary glands, Canadian J. Biochem. Physiol., 39:659, April, 1961.

24. Zak, B., Willard, H. H., Myers, G. B., and Boyle, A. J.: Chloric acid method for determination of protein-bound iodine, Anal. Chem., 24:1345, Aug. 1952.

Non-Infectious Inflammatory and Neoplastic Disorders of the Male Genitalia

WILLIAM B. REED, *M.D.*, Burbank, WALTER R. NICKEL, *M.D.*, San Diego, and LOUIS H. WINER, *M.D.*, Beverly Hills

• The cutaneous manifestations of the male external genitalia are difficult to diagnose. They may be associated with systemic disease (Reiter's disease, psoriatic arthritis, angiokeratoma corporis diffusum). In dealing with a lesion of this area that does not heal, adequate biopsy is advisable to rule out malignant disease (Bowen's disease, melanoma, Kaposi's sarcoma, Paget's disease, erythroplasia).

VISIBLE LESIONS of the male genitalia must be considered from the standpoint of the physiologic features and underlying structures composing this region. A quasimucous membrane similar to the lip, the glans penis is copiously vascular. The penis and scrotum are physiologically in a dependent position and the skin covering them is extraordinarily elastic. As the underlying connective tissue is areolar, severe edema can develop rapidly (Figure 1). Sebaceous and apocrine glands are extremely active in this area. The normally abundant melanin accounts for the darker coloring of the skin here than elsewhere. All of these factors contribute to the uniqueness of genital lesions.

This discussion will deal only with non-infectious, inflammatory and neoplastic conditions, some of which are peculiar to this region. To borrow Sulzberger's[20] designation of "puzzling" as a starting point, the papulosquamous group fits best in this category. Particularly puzzling is clinically distinguishing between this group and early malignant changes most often designated as erythroplasia or erythroplakia of Queyrat.

Papulosquamous Eruptions

1. Psoriasis
2. Seborrheic dermatitis
3. Localized neurodermatitis (lichen simplex chronicus)
4. Lichen planus
5. Chronic exudative and lichenoid dermatosis (oid-oid disease).[13]

Psoriasis vulgaris may be primary on the penis, but it is most often associated with typical lesions elsewhere on the skin. The penile plaque of psoriasis exhibits a scaling erythema, with a sharp margin and bleeding points when the scale is removed. The questionable interrelationship between Reiter's disease, keratoderma blenorrhagica and psoriasis must be considered. This is particularly true when one considers the decided similarities of the penile plaques in all three conditions. In a study by one of us[13] the high incidence of penile psoriasis (50 per cent) in persons with psoriatic arthritis suggests a greater correlation of these two findings than that found by Sulzberger (25 per cent).[20] In any case of solitary persistent penile plaque, even if psoriatic in appearance, biopsy should be done to rule out malignant disease.

Seborrheic dermatitis limited to the glans penis is most often a diagnosis of exclusion. It closely mimics psoriasis and best deserves the epithet "puzzling."

Localized neurodermatitis (lichen simplex chronicus) almost always is associated with changes on the scrotum. It is characterized by chronic edema, "elephant like" skin, and loss of pubic and scrotal hair from scratching.

Lichen planus of the genitalia is most often seen as typical polygonal lesions coalescing to form a whitish lace-like, retiform pattern or an annular plaque. It is rarely limited to the genitalia and may be as persistent as lichen planus observed on the oral mucous membranes.[2] In spite of its chronicity it is not considered a pre-cancerous lesion.

Distinctive exudative discoid and lichenoid chronic dermatosis described by Sulzberger and Garbe[18,20] (oid-oid disease) is considered by some investigators as a severe form of nummular eczema. Scaling plaques may persist in the genital region, even after satisfactory remission elsewhere in the body.[20]

Allergic Reactions

1. Urticaria and angioneurotic edema
2. Dermatitis medicamentosa
3. Insect bites

Presented before the Section on Dermatology at the 92nd Annual Session of the California Medical Association, Los Angeles, March 24 to 27, 1963.

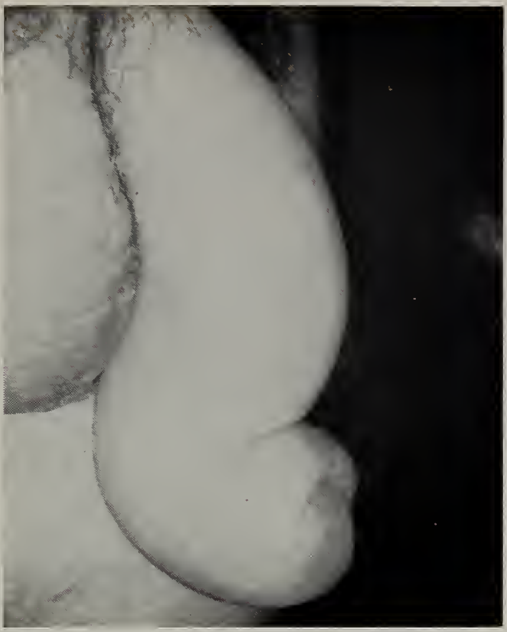


Figure 1.—Severe edema of penis following contact dermatitis from poison oak.

4. Dermatitis venenata
5. Stevens-Johnson syndrome (erythema multiforme exudativum).

Allergic reactions of the male genitalia are most often acute. They are influenced by the dependent position, rich vascularity and looseness of the connective tissue in this area. The approximation of the cutaneous surfaces and the increased moisture are important factors in the production of contact dermatitis.

Angioneurotic edema and urticaria can be idiopathic and defy all investigation.

Dermatitis medicamentosa may be manifested as an acute edematous process associated with the administration of penicillin or other drugs. The natural history is usually one of slower resolution in the genital area. The most challenging variety diagnostically is the "fixed" drug eruption. This recurs within a few hours after ingestion of a drug, producing a repetitious eruption, each time at the same site in the sensitized tissue. The most common clinical lesion is a round or oval sharply circumscribed plaque, often showing superficial erosion. The drugs most commonly incriminated are antipyrine, acetanilid, barbiturates, phenolphthalein and more recently the sulfa preparations. Increased pigmentation can be a striking feature, accounting for the description of "black penis."[21]

Atrophy

1. Balanitis xerotica obliterans
2. Radiation atrophy
3. Epidermolysis bullosum dystrophica.

Atrophy of the genitalia, as in other areas, is an evidence of some severe tissue insult, often unexplained.

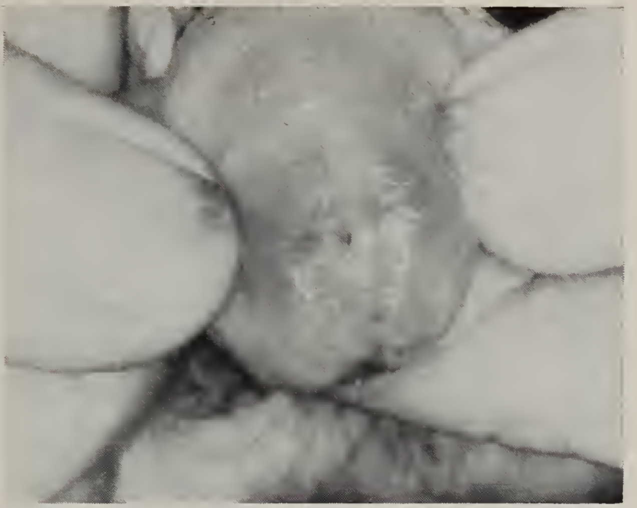


Figure 2.—Stenosis of meatus from balanitis xerotica obliterans requiring operation.

Balanitis xerotica obliterans is an atrophic sclerosis process of the glans and prepuce and may lead to meatal stenosis, requiring surgical operation. The glans may be scaly, but is most often white (vitiliginous) with a glazed appearance (Figure 3). Slight trauma may produce subcutaneous hemorrhage. Laymon and Freeman[8] regarded this lesion as *lichen sclerosis et atrophicus.* Epithelioma has been reported as developing in these atrophic areas. If any thickening or ulceration of the skin develops in these atrophic areas, adequate biopsy is demanded.

Radiation atrophy of the genitalia is seen following therapy for hemangiomas or Peyronie's disease.

Atrophic changes of the genital area were observed by one of us[14] in a case of severe epidermolysis bullosum dystrophica.

Pigmentary Changes

1. Vitiligo—acquired
2. Vitiligo—partial or complete albinism
3. Leukoderma—post inflammatory depigmentation
4. Increased pigmentation
    a. Post inflammatory
    b. Hormonal
5. Foreign body pigment—tattoo.

Pigmentary changes (increased, decreased or absent) may be part of a generalized systemic disease, hormonal or idiopathic.

Acquired vitiligo is most often part of a generalized vitiliginous change. There is no disposition for this abnormality to occur alone on the penis.

Congenital vitiligo may manifest itself as total pigment loss, as seen in albinos, or as an isolated area of partial albinism.

Leukoderma localized to the penis reported[5] following protracted use of rubber condom, was attributed to the presence of monobenzyl ether of hydroquinone used in curing the rubber.

Hormonal stimulation of the melanocytes in the genital area has been noted in association with administration of adrenocorticotropin (ACTH) and estrogens, and in Addison's disease. Experiments in animals suggest a specific melanocytic stimulating hormone (MSH) capable of influencing pigmentation.

In the quest of male prowess, tattooing of the male genitalia with appropriate symbols is still practiced.

Non-Infectious Granulomas

1. Lichen nitidis
2. Sclerosing lipogranuloma
3. Foreign body granuloma
4. Juvenile xanthogranuloma (nevoxanthoendothelioma)
5. Histiocytosis X.

Non-infectious granulomas of the genitalia are accepted as part of the overall body disease, but may occur independently and may be benign or malignant.

Lichen nitidis is most commonly seen as small shiny flat-topped papules on the shaft of the penis. Microscopically they are minute collections of epithelioid cells and may persist for years.

Sonetana and Bernhard[17] described a peculiar granulomatous reaction that occurs in the subcutaneous fat tissue after injury. They designated this as *sclerosing lipogranuloma.* This reaction is most frequently seen around the inguinogenital region but none of the patients in the cases they reported had penile lesions. Newcomer and coworker[40] expressed the belief that most of these lesions (especially those on the penis, where there is no fat normally) result from exogenous lipids.

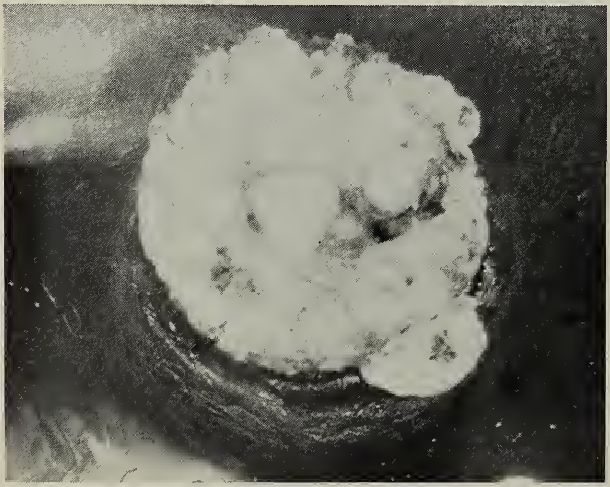


Figure 3.—Advanced squamous cell carcinoma of the glans penis.

Foreign body granulomas can result from accidental or purposeful injection of materials such as paraffin and silica.

Juvenile xanthogranuloma (nevoxanthoendothelioma) were found on the genitalia in two of the 106 patients reviewed by Helwig.[7] A single case was presented to the Los Angeles Dermatological Society by one of us.[45] The patient had two lesions on the shaft of the penis and three on the scrotum, as well as other nodules elsewhere on the skin.

Histiocytosis X (eosinophilic granuloma of the bone and skin, Hand-Schuller-Christian disease, Letterer-Siwe disease) involves the inguinal areas as well as other flexural areas. Letterer-Siwe disease simulates seborrheic dermatitis; however, biopsy will reveal malignant reticuloendotheliois. Ulceration can occur in the genital area in eosinophilic granuloma.[3]

Benign Neoplasms

1. Hemangiomas
2. Angiokeratoma
    a. Localized—Fordyce type
    b. Diffuse—Fabry type
3. Lymphangiomas
4. Pigmented nevi
5. Seborrheic keratoses
6. Epidermal cysts
7. Lipomas
8. Sclerosing lymphangitis
9. Granuloma pyogenicum.

Benign non-infectious neoplasms of the male genitalia are in many cases self explanatory by their clinical or microscopic designations. These will, in most cases, therefore not be discussed in detail.

Congenital hemangiomas, whether simple (port wine), strawberry or cavernous, are usually easily recognized in the newborn.

Angiokeratomas (Fordyce type) derive their name from the presence of blood vessels in the keratin layer and are subject to bleeding on slight trauma. They are localized and are usually seen after middle age.

Diffuse angiokeratoma of Fabry is a systematized process which is familial and carries a poor prognosis (see later discussion under systemic diseases).

Lymphangiomas are congenital and are in the same category as hemangiomas. This condition tends to extend with age.

Pigmented nevi are the same as those elsewhere on the skin. Because of the greater incidence of malignancy of the lesions on mucosa or quasimucosal surfaces, they probably should be excised when discovered.

Seborrheic keratosis is the same in behavior when on the genitalia as when in other locations.

Epithelial cysts are clinically self evident, as are lipomas.

Sclerosing lymphangitis[11] presents itself as a firm translucent cord in the coronal sulcus. The lesion spontaneously involutes in four to six weeks without therapy.

Granuloma pyogenicum (proud flesh) occurs following trauma.

Malignant Neoplasms

1. Early
   a. Leukoplakia
   b. Cutaneous horn
   c. Erythroplasia of Queyrat (intraepithelial carcinoma)
   d. Bowen's disease—(scrotum).
2. Late
   a. Squamous cell carcinoma (prickle cell carcinoma)
   b. Paget's disease
   c. Malignant melanoma
   d. Kaposi's sarcoma
   e. Leukemia—lymphoma
   f. Metastases.

Leukoplakia of the glans penis is both a clinical and microscopic diagnosis. This designation would be made more often in one who had been circumcised, permitting a minimum of maceration and wetting of the surface.

Cutaneous horns[9] are kyperkeratotic and usually show maligant dyskeratotic phenomena at the base. Some of these would best be described as early squamous cell carcinoma.

Erythroplasia of Queryat was described by Fournier and Darier.[6] They separated the disease into benign and malignant types, depending on the presence or absence of malignant dyskeratotic changes. Nevertheless, the term *erythroplasia* has become synonymous with a precancerous or cancerous lesion requiring adequate removal. Sulzberger and Satenstein[19] reported a case in 1933. The follow-up on this patient over a 20-year period revealed no malignant degeneration.[20] Zoon demonstrated these benign lesions which clinically simulate malignant growths. He designated them *balanoposthitis chronica circumscripta plasmacellularis.*[23] Erythroplasia shows malignant dyskeratotic phenomena in the epithelium (intraepithelial carcinoma) while the benign lesions show spongiosis and flattening of the rete ridges due to massive numbers of plasma cells.

Squamous cell carcinoma constitutes about 2 to 3 per cent of all carcinomas in the male. It is generally known that squamous cell carcinoma is uncommon in Jews, who practice circumcision. It is not generally known, however, that in India, with a mixed religious population, the Moslems, who practice circumcision, have also almost no carcinoma of the penis, and that among Hindus, who do not practice circumcision, the incidence of carcinoma of the penis is 10 per cent.

Clinically this type of carcinoma is either papillary or cauliflower-like (Figure 3) or sclerosing and infiltrating. The outlook is somewhat better for the papillary type.

Even though squamous cell carcinoma of the penis is well differentiated microscopically, metastasis to the inguinal nodes is still apt to occur.

Carcinoma of the scrotum (chimney sweeps' disease) is most often microscopically squamous cell carcinoma or Bowen's intraepithelial carcinoma. Originally, soot and tar products were suspected as factors. Today this occupational disease is seen also in persons working with mineral oil, paraffin and tar. The problem in these lesions is in the early recognition of a chronic warty or eczematous-appearing growth on the scrotum. A patient with this disease who was recently observed by one of us had been treated for ten years for eczema. Metastasis from the warty lesion on the scrotum to the inguinal nodes already had occurred, and a cold abscess at the site of metastasis necessitated amputation of the leg. The primary lesion was microscopically Bowen's disease, but the lymph node revealed an undifferentiated squamous cell carcinoma.

From Pack's[12] article on the comparative distribution of moles on the body and the higher incidence of malignant melanoma on the genitalia, one can only conclude that pigmented nevi of the genitalia should be excised when discovered. Metastasis occurs rapidly from malignant melanoma of the anogenital region.

Bowen's disease, malignant melanoma and Paget's disease can all occur on the male genitalia. Allen and Spitz[1] expressed the opinion that most of the lesions of the genitalia were melanomas undergoing myxoid degeneration, a view not shared by most observers. However, considerable difficulty arises from the histopathological appearance unless special stains are used. Paget's cells contain mucin which can be stained with para-aminosalicylic acid stains, while with melanoma, tyrosine and silver stains will demonstrate premelanin or melanin. Whether the tumor arises from aprocrine glands or is a bizarre mucinous cancer

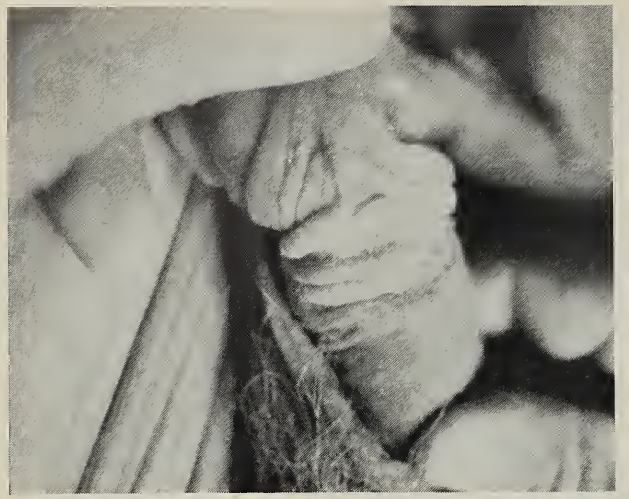


Figure 4.—Acanthosis nigricans developing with gastrointestinal carcinoma (courtesy of W. R. Sanford, San Diego, Calif.).

is somewhat academic, since it is a malignant lesion necessitating extensive surgical operation.

Kaposi's sarcoma can occur on the glans penis and scrotum just as it can in the mouth. It is rare, however. Bluefarb[4] cited six patients with Kaposi's sarcoma of the glans penis. In one of them the first lesion was on the glans penis and later the inguinal nodes and lung were involved. Considering the vascularity of the glans, some of these patients may have had an angiosarcoma. Distinguishing between Kaposi's sarcoma and angiosarcoma is difficult.

Instances of leukemias and lymphoblastomas have occurred on the male genitalia, but they were not specific.

Systemic Disease with Genital Involvement

1. Reiter's disease—psoriatic arthritis-keratosis blenorrhagica
2. Behcet's syndrome
3. Stevens-Johnson syndrome
4. Acanthosis nigricans (Figure 4)
5. Angiokeratoma corporis diffusum (Fabry's disease)
6. Periarteritis nodosa.

In some systemic diseases the presence or absence of penile involvement is an important diagnostic sign.

Although some investigators disagree, we believe that Reiter's disease, keratosis blenorrhagica and pustular psoriasis with arthritis are not separate entities but stages of the same disease. For us this opinion was strengthened when we observed a patient in whom the disease progressed through these three stages. In addition, we have studied seven patients who were originally diagnosed as having Reiter's disease and now have psoriatic arthritis.

The usual triad of Reiter's disease—urethritis, conjunctivitis and arthritis—can be observed also in patients with pustular psoriasis and keratosis blenorrhagica, depending on what signs and symptoms are observed. In Reiter's disease lesions may occur on the glans penis without a true urethritis being present.

Behcet's disease with aphthous stomatitis, uveitis, thrombophlebitis, erythema nodosum, penile and scrotal ulcerations, arthritis and neurological changes is a complicated and poorly understood process. The patient may die of neurological complications. The more often observed aphthous stomatitis and concomitant genital ulcerations may be a form of Behcet's syndrome, and careful and continuous observation of the patients is necessary. However, in aphthous stomatitis, the possibility of viral and allergic reactions must be considered.

Stevens-Johnson syndrome is a severe exudative form of erythema multiforme involving all the body orifices. It is a severe systemic reaction, probably allergic in nature and possibly due to drugs or to viral or bacterial infection and is sometimes associated with internal malignant disease. The patients may die of pneumonia or renal disease.

Angiokeratoma corporis diffusum of Fabry involves the penis, scrotum, buttocks, lumbo-sacral region, thighs, legs and ankles, and tends to extend with time. It is a familial disease and is almost always in males. The lesions are punctate rather than warty as in the localized type. It is a serious and progressive systemic disease. Renal failure is the most frequent cause of death. The important systemic changes probably result from the deposition of phospholipids in the smooth muscle of the walls of the blood vessels, particularly in the heart and kidneys.[16,22]

A single case of gangrene of the penis with periarteritis nodosa has been observed.

1013 West Olive Boulevard, Burbank, California 91506 (Reed).

REFERENCES

1. Allen, A. C., and Spitz, S.: Malignant melanoma; clinicopathological analysis of criteria for diagnosis and prognosis, Cancer, 6:145, 1953.

2. Altman, J., and Perry, H.: Variations and course of lichen planus, Arch. Derm., 84:47-59, 1961.

3. Bluefarb, S. M.: Cutaneous Manifestations of the Reticuloendothelial Granuloma, Charles Thomas, Springfield, Ill., 1960.

4. Bluefarb, S. M.: Kaposi's Sarcoma, Charles Thomas, Springfield, Ill., 1957.

5. Downing, J. G.: Leucoderma of penis from contact with rubber, Arch. Derm., 66:401-402, 1952.

6. Fournier, A., and Darier, J.: Epithelioma bénin syphiloide de la verge, Bull. Soc. Frac. Dermat et Syph., 4:324, 1893.

7. Helwig, E. B.: Juvenile xanthogranuloma, Proc. Pacific Derm. Assoc., Phoenix, Ariz., Oct. 31, 1957.

8. Laymon, C. W., and Freeman, C.: Relationship of balanitis xerotica obliterans to lichen sclerosus et atrophicus, Arch. Derm., 49:57-59, 1944.

9. Lillie, G. V., and Guin, J. D.: Penile horn, Arch. Derm., 84:322-324, 1961.

10. Newcomer, V. D., Graham, J. H., Schaffert, R. R., and Kaplan, L.: Sclerosing lipogranuloma resulting from exogenous lipids, Arch. Derm., 73:361-372, 1956.

11. Nickel, W. R., and Plumb, R. T.: Nonvenereal sclerosing lymphangitis of penis, 86:761, 1962.

12. Pack, G.: The pigmented mole and malignant melanoma, CA, 12:11-16, 1962.

13. Reed, W. B., Becker, S. W., Rohde, R., and Heiskell, C. L.: Psoriasis and arthritis, Arch. Derm., 83:541-548, 1961. toses, Arch. Derm., 36:247, 1937.

14. Reed, W. B.: Personal observation, 1963.

15. Reed, W. B.: Case presentation, Los Angeles Derm. Assoc., Jan. 1963.

16. Ruiter, M.: Some further observations an angiokeratoma corporis diffusum, Brit. J. Dermat., 69:137, 1957.

17. Sonetana, H. F., and Bernard, W.: Sclerosing lipogranuloma, Arch. Path., 50:296, 1950.

18. Sulzberger, M. B., and Garbe, W.: Nine cases of a distinctive exudative discord and lichenoid chronic dermatoses, Arch. Derm., 36:247, 1937.

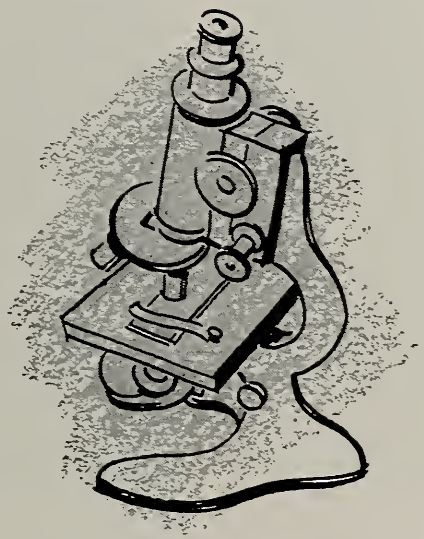
19. Sulzberger, M. B., and Satenstein, D. L.: Erythroplasia of Queyrat, Arch. Derm. and Syph., 28:798-806, 1933.

20. Sulzberger, M. B., Witten, V. H., and Hunt, J. A.: Puzzling penile plaques, Arch. Derm., 73:10-109, 1956.

21. Welsh, A. L.: The Fixed Eruption, Charles Thomas, Springfield, Ill., 1961.

22. Wise, D., Wallace, H. J., and Jellinick, E. H.: Angiokeratoma corporis diffusum, Quart. J. Med., 31:177-206, 1962.

23. Zoon, J.: Balanoposthite chronique circonserite bénigne á plasmocytes, Dermatologica, 105:1, 1952.



Oral Mucous Membrane Lesions

Pathologic Features

FRANCIS V. HOWELL, *D.D.S., M.S.*, La Jolla

• **Lesions of the oral mucous membranes often present bizarre, clinical and histological patterns because of the salivary environment and the complex organization of the various membranes. Diagnosis of oral lesions depends primarily on tissue biopsy, which must be modified in some cases from the usual dermatological technique. Exfoliative cytology has become an important adjunct to biopsy. Congenital, keratotic, malignant and dermatological lesions are those which are most easily diagnosed by clinical as well as histopathological and cytological examination.**

The first professional examination of an oral lesion is by far the most important because at this time the determination of the correct diagnostic procedure is made.

From a histological and embryological point of view, the mucosa of the oral cavity is similar to the skin, but it is subjected to a more complex and inconstant environment. The complex liquid medium of the saliva, coupled with a highly labile microbiological flora combines to produce unusual lesions of local origin and to modify decidedly the systemic and particularly the dermatological lesions that occur in the mouth.

HISTOLOGY

Anatomically there are three types of mucosa and all have distinct clinical and histological features: (1) Attached or masticatory mucosa, (2) free or thin mucosa and (3) dorsal mucosa of the tongue. The extent of the oral mucosa for the purpose of this paper is from the vermilion border of the lips posteriorly to the anterior tonsillar pillars and to the sulcus terminalis of the tongue. Some lesions may be found only on one of the three.

The attached or masticatory mucosa is found on the hard palate and it also forms the gingiva of the maxilla and the mandible. Both the epithelium and the lamina propria are thick and in the latter there are heavy interwoven collagen bundles which often fuse directly with periosteum. Only in the posterior part of the hard palate are minor salivary glands found. This mucosa is not easily displaced and it withstands trauma well.

The thin or free mucosa is found on the lips, buccal surfaces, soft palate, floor of the mouth and the ventral surface of the tongue. The epithelium is thin and normally exhibits no keratinization. The lamina propria contains loose collagen and many elastic fibers. Mucous glands are found in most areas, the greatest concentration being on the lips and soft palate. As this mucosa is flexible and resilient, it "escapes" from many physical irritants.

The dorsum of the tongue is a unique membrane because it possesses no submucosa and voluntary muscle attaches directly into the lamina propria. In addition, there are papillae (filliform, fungiform, circumvallate, folliate, and conical) which are supported by primary ridges which radiate laterally and anteriorly from the midline. The papillae act as prehensile structures, aid in mastication and support many sensory structures.

DIAGNOSTIC METHODS: BIOPSY AND CYTOLOGY

The two most valuable diagnostic procedures for oral mucosal lesions are tissue biopsy and exfoliative cytology. Bacterial smears and cultures are of limited value because of the great variety of the oral flora.

Biopsy. The conventional scalpel is the ideal instrument and there is little need for punches and special tissue forceps. Because of the flexibility and vascularity of oral tissues, a special needle technique has proved very valuable. (Figure 1.) The tissue may be more firmly held and bleeding is easily controlled.

Cytology. This procedure is not a substitute for biopsy but a valuable adjunct as well as a screening tool. Chief indications for its use are: (1) Benign appearing lesions, (2) highly suspicious lesions when the condition of the patient contraindicates biopsy, and (3) postsurgical and postradiation observations in treated cancer patients. A moistened tongue blade, a spatula, or a swab will usually produce a good cellular smear. (Figure 2.)

CLINICAL AND PATHOLOGICAL CONDITIONS

Pathological entities of most consequence to physicians, especially dermatologists, are outlined

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Presented as part of a panel on the Mucous Membrane Diseases before the Section on Dermatology at the 92nd Annual Session of the California Medical Association, Los Angeles, March 24-27, 1963.

From the Department of Pathology, U.S.C. School of Medicine, Los Angeles.

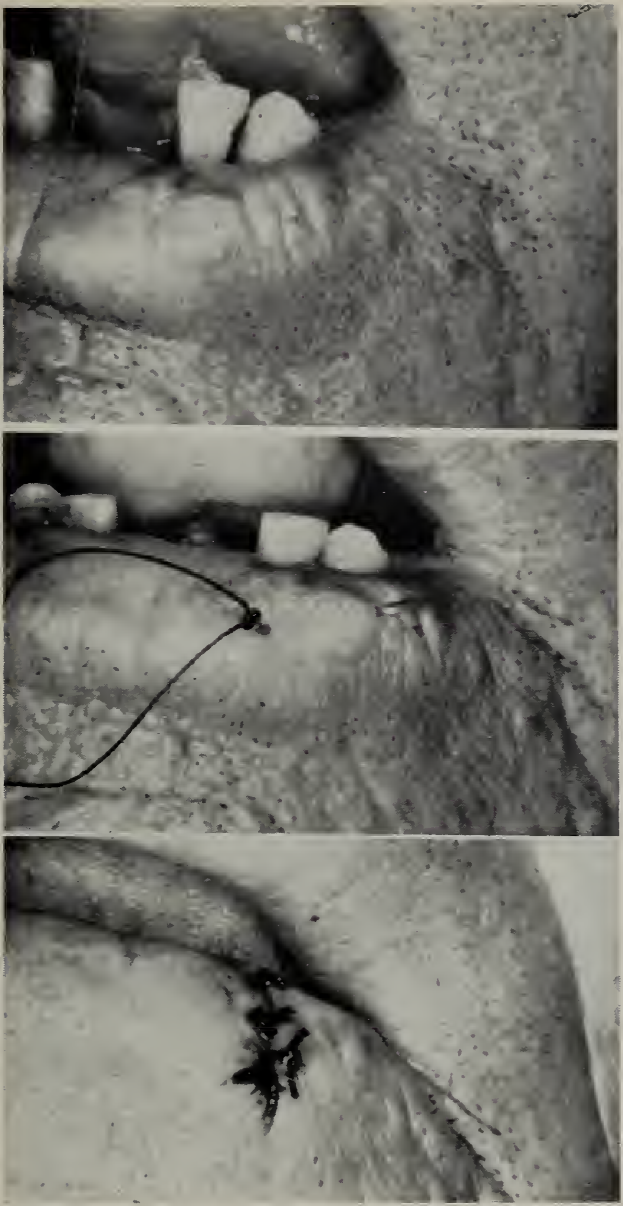


Figure 1.—Biopsy technique utilizing a needle. *Top*: Discrete, slightly indurated lesion of the dry mucosa of the lower left lip. *Middle:* A large curved needle has been placed well beneath the lesion with the entrance of the needle and its emission providing sufficient lateral margins. Because of the flexibility of the mucosa and the underlying muscle, the needle can be placed deep enough to provide a safe surgical margin. *Bottom:* Following excision the primary suture is drawn entirely through the lip and the two sides are accurately approximated. Auxiliary sutures are then placed. The lesion was an early squamous cell carcinoma.

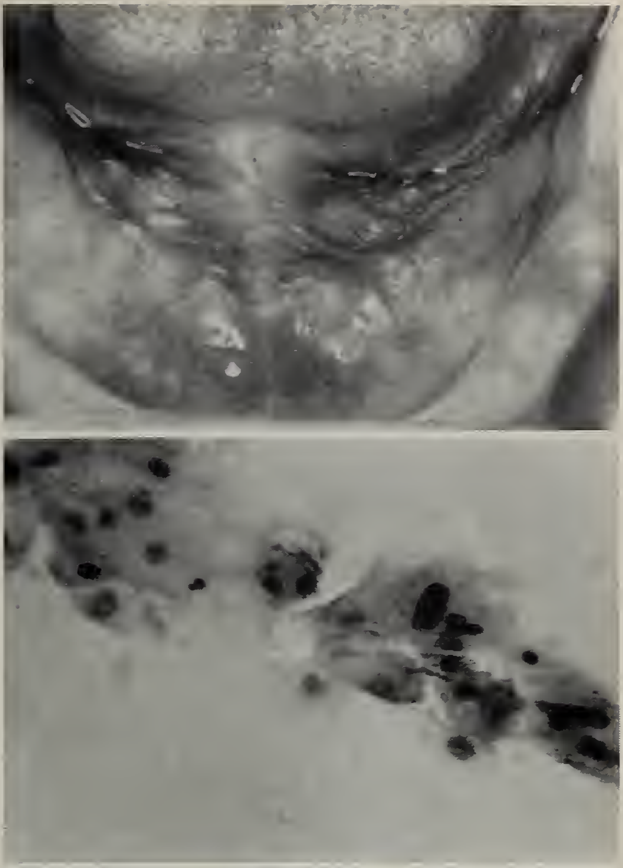


Figure 2.—Cytological evaluation of an atrophic keratotic lesion. The patient was a 60-year-old woman who was receiving an anticoagulant. Atrophic, somewhat fragmented keratosis of the floor of the mouth had been noted for approximately three months, since her remaining mandibular teeth were extracted. Cytological material was obtained from both sides of the midline with a small medicament spatula. This was spread on a glass slide and placed in fixative. The cytological smear (× 430) demonstrates atypical squamous cells with a reduced nucleus-cytoplasm ratio, nuclear pleomorphism, and other features of a low-grade malignancy. Subsequent biopsy was performed in a hospital and confirmed the diagnosis of squamous cell carcinoma.

below. (This series of lesions does not include many of the conditions diagnosed and treated most frequently by practicing dentists.)

Congenital and Hereditary Disturbances

There are many developmental defects which affect the oral mucous membrane that are of interest to dermatologists and other physicians. Most of these conditions have little clinical significance but it is important to recognize the causes and to differentiate them from possibly more serious conditions.

1. *Pigmentation* (melanoplakia). Melanin pigmentation of the mucosa is commonly seen in Negroes and is frequently observed in Arabs, Indians, Greeks, and Italians. It most commonly affects the free mucosa and the facial surfaces of the gingiva. It seldom involves the interdental papillae or the palate, and on the tongue the pigment will occasionally involve the fungiform papillae. Hyperplastic lesions and healing wounds, particularly from periodontal surgical operations, are often devoid of pigment.

2. *Fordyce granules* (Fordyce disease, ectopic sebaceous glands). The teeth are homologous to the hair follicle, but they are not associated with sebaceous glands. Fordyce granules occur in about 82 per cent of the population. They are most commonly

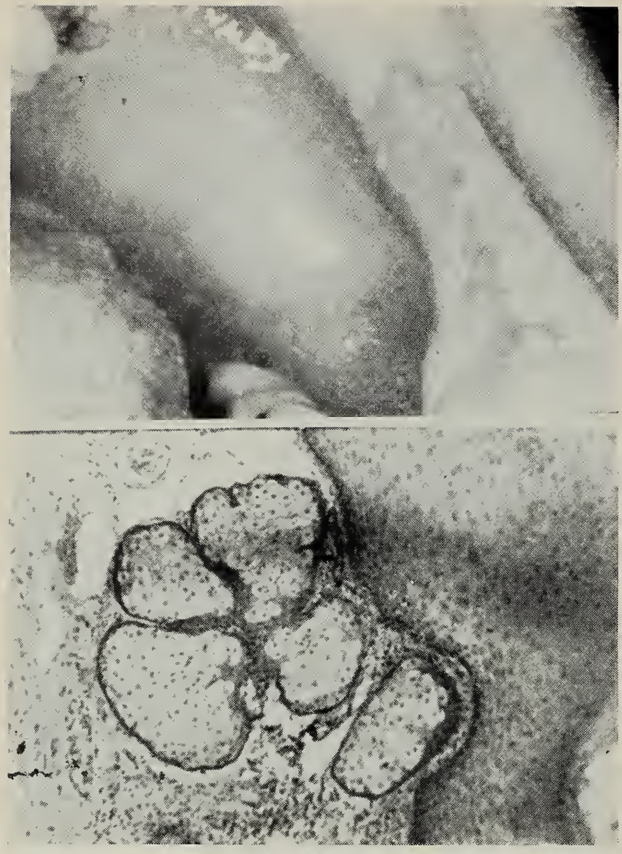


Figure 3.—Fordyce granules of the left cheek with involvement of the dry mucosa of the lower lip. *Top*: The greasy tan spots are most numerous in the occlusal-line area but many involve the upper and lower lip. *Below*: A photomicrograph (× 100) of Fordyce granules which lie in the lamina propria and in the upper portions of the submucosa. These are a group of sebaceous glands which were present in a biopsy specimen of an inflammatory lesion of the buccal mucosa. A few of the inflammatory cells are observed.

seen in adults and the most frequent site is the buccal mucosa and the dry mucosa of the upper lip. The glands are static in size and very few are associated with ducts. These structures are often seen in the "cancer phobe." Tumors are extremely rare and lesions seldom become inflamed despite biting trauma. (See Figure 3.)

3. *White sponge nevus.* This apparently familial condition does not run a true hereditary pattern. It is more frequently seen in the buccal mucosa and in the vestibulae of the maxilla and the mandible. Histologically, there is a remarkably thickened stratum corneum in which keratinization is apparently incomplete and the cells are extremely edematous (Figure 4).

4. *Median Rhomboid Glossitis.* This is a so-called "tuberculum impar defect" and probably results from a failure of the posterior portion of the dorsal ectoderm to fuse in the midline. The clinical lesion is often smooth and devoid of papillae, which makes it appear more erythematous (Figure 5).

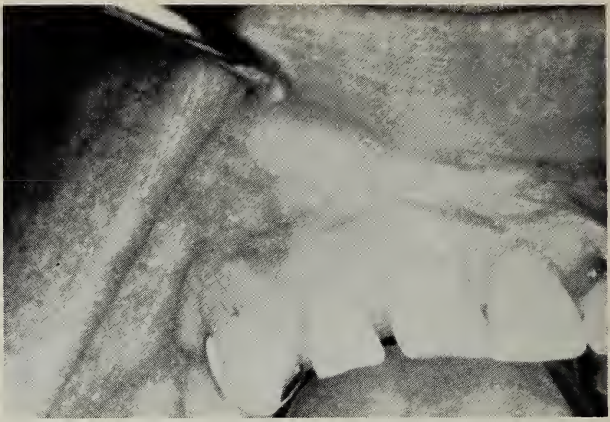


Figure 4.—White sponge nevus. The thin mucosa in this case of a 35-year-old white man shows a white, soft thickening. It is most prominent in the maxillary vestibule. One of the patient's two brothers and his maternal grandfather also had the condition. Biopsy confirmed the presence of a stratum corneum in which there was considerable thickening by parakeratosis with considerable edema in the stratum corneum.

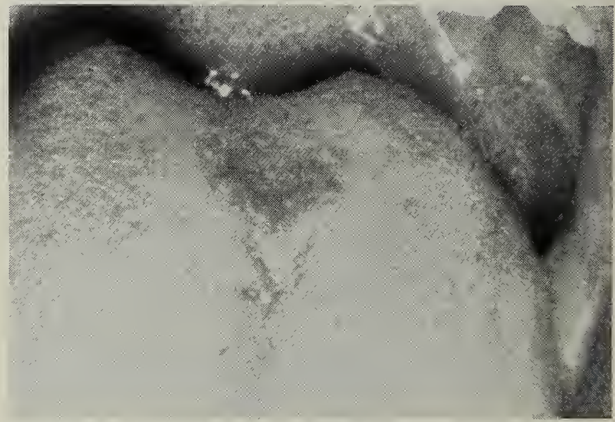


Figure 5.—Median rhomboid glossitis. The patient, a 35-year-old white woman, first became aware of this lesion when it was noticed by her dentist. It was devoid of papillae, was somewhat reddened and nodular.

Keratotic Lesions

Although there are many special and unusual keratotic lesions, only the two main types, hyperplastic and atrophic, are of importance.

Hyperplastic. The hyperplastic keratotic lesions are known variously as leukoplakia, focal-keratosis, diffuse keratosis, keratosis simplex and pachyderma-oris. All of these terms have been used for generally similar conditions which are characterized by hyperkeratosis and acanthosis. Inflammatory involvement of the lamina propria is of apparently no significance in the outcome of the condition. Smoking, low grade frictional irritation, direct contact with tobacco, and hot and spicy foods are the most frequent etiological factors. Occasionally dyskeratotic lesions develop and these in turn may terminate in squamous cell carcinoma (Figure 6). Most of these conditions will regress following elimination of the local irritants.

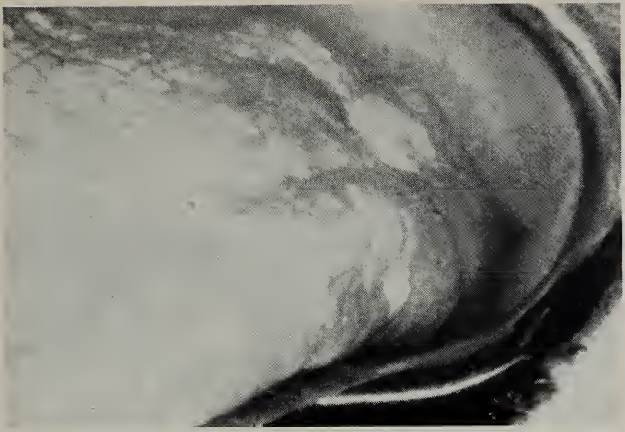


Figure 6.—Keratosis, long-standing, with malignant change. The keratosis of the left lateral surface of the tongue had been present for many years with previous biopsies reporting only "diffuse keratosis." Here, localized induration has occurred in two areas and biopsy revealed early squamous cell carcinoma.

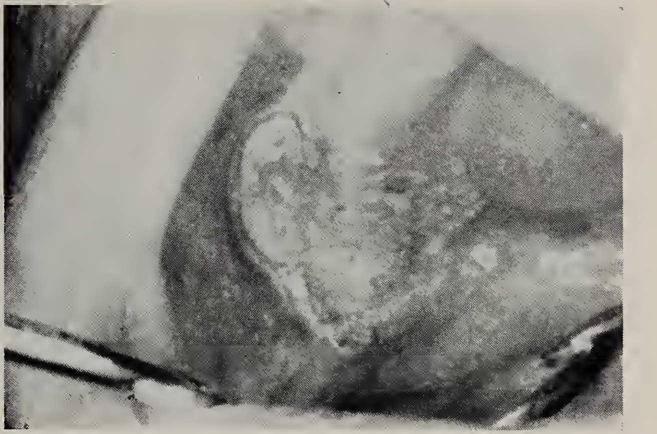


Figure 8.—Squamous cell carcinoma of the maxillary tuberosity. This lesion under a denture was treated for two months as a "denture infection" by a chiropractor. Biopsy revealed Grade II squamous cell carcinoma. Note the presence of keratinization and the rolled peripheral margin.

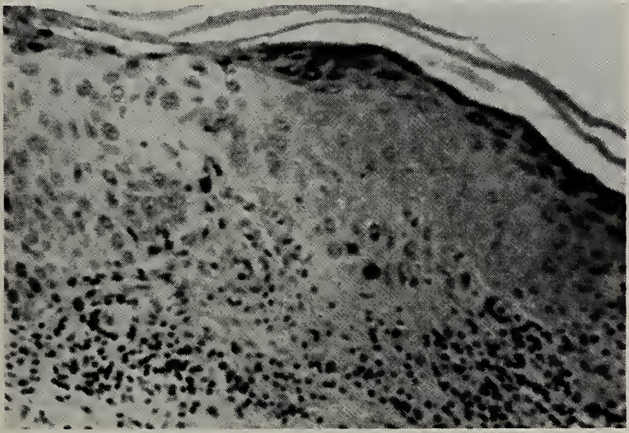


Figure 7.—Dyskeratotic leukoplakia. In the photomicrograph (× 100) there is hyperchromatism, loss of polarity, and pleomorphism. However, the epithelium has not invaded the lamina propria and the basement membrane is intact. Clinically and histologically the hyperkeratosis is even and fairly regular.

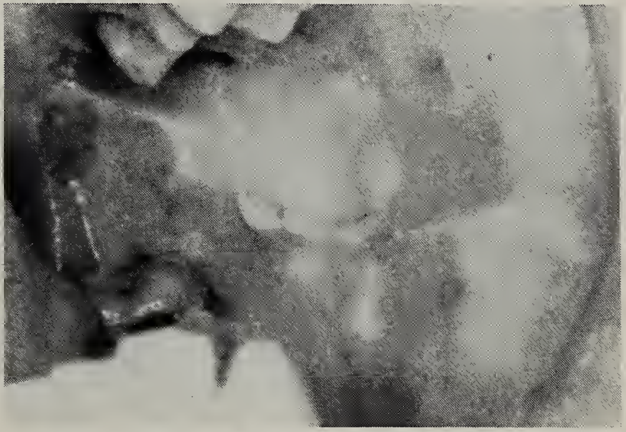


Figure 9.—Stevens-Johnson syndrome. All of the oral mucous membranes are edematous and in many areas large bullae are forming. Considerable ulceration has already occurred in the retromolar area. The patient also had penile lesions.

Atrophic. Atrophy of the mucosa with keratinization is often described by the same diagnostic terms as the hyperplastic keratotic lesions. These lesions, however, present more of a clinical problem and are frequently associated with sudden dyskeratotic or outright malignant change. Vitamin A deficiency is a frequent factor, but in the floor of the mouth in postmenopausal women this keratosis is a frequent finding. Since the floor of the mouth is the only area of the oral mucosa in which malignant disease is seen as frequently in women as in men, this is an extremely important clinical consideration (see Figure 2). In addition, the Plummer-Vinson syndrome is seen in women, particularly of Scandinavian origin, who have a dry mucosa, irregular keratotic lesions and glossodynia This syndrome frequently is associated with pharyngeal and oral malignancies.

Dyskeratotic Lesions

Dyskeratotic lesions are usually associated with an increased stratum corneum, but on the free or thin mucosa dyskeratosis will often occur without hyperkeratosis. Dyskeratotic lesions are histologically almost identical to senile keratosis.

Leukoplakia is a term which is generally reserved for the dyskeratotic lesion when it is associated with keratinization. Since there has been considerable confusion surrounding this term, many oral pathologists today prefer to use the term *dyskeratotic leukoplakia* (see Figure 7).

Malignant Tumors

Cancer of the oral mucous membrane is most commonly squamous cell carcinoma. Basal cell carcinoma does not occur as such on the mucous membrane. Adenocarcinoma is predominately in the palate and arises from the minor salivary glands.

Oral lesions of squamous cell carcinoma are responsible for approximately 5 per cent of cancer

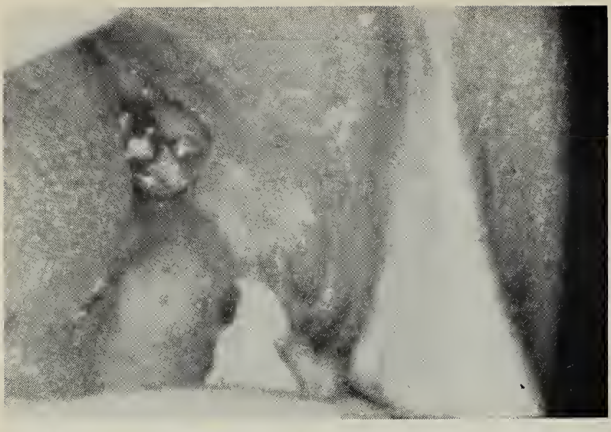


Figure 10.—Lichen planus of the buccal mucosa. The patient has involvement of both buccal mucosae, the soft palate, and the dorsum of the tongue. All of the lesions have a white lacy appearance without a definite pattern. Occasionally, there is erythema between the linear white areas.

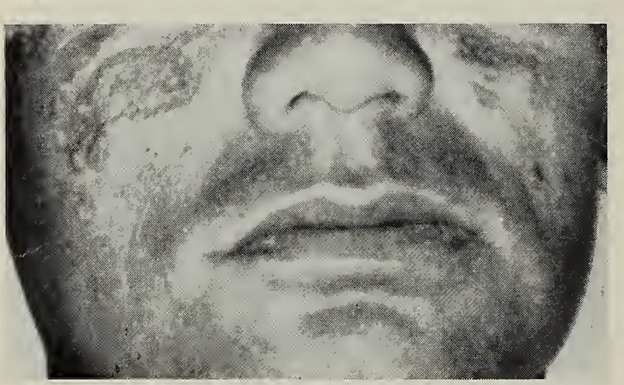


Figure 11.—Discoid lupus erythematosus. The patient, an Hawaiian, had typical lesions of the middle face and lesions of the dry mucosa near the commissures. Biopsy of these areas shows typical mucosal lupus erythematosus. The patient also had lesions of the buccal mucosae near the retromolar area.

deaths and such lesions make up approximately 12 per cent of malignant lesions in all other parts of the body. Approximately 85 per cent of intra-oral carcinoma and 94 per cent of all malignant lesions of the lip occur in men. The average age at onset is 55 years. These lesions generally grow by direct extension and metastasis usually is to the cervical lymph nodes, not often to more distant sites. The more differentiated carcinomas are almost always associated with keratinization. (See Figure 8.) The more undifferentiated lesions are frequently not associated with keratinization.

Dermatological Lesions

There are a few skin diseases which frequently have associated with them mucosal changes that give a better clue to diagnosis than do the skin lesions themselves.

Stevens-Johnson Syndrome. This is one of the mucocutaneous-ocular syndromes. In most cases the oral lesions are the most severe and the most distinctive. Large bullae often leave extensive areas of ulceration which are more painful than lesions of pemphigus. Because of the oral lesions, patients often reach a severe nutritional crisis (see Figure 9).

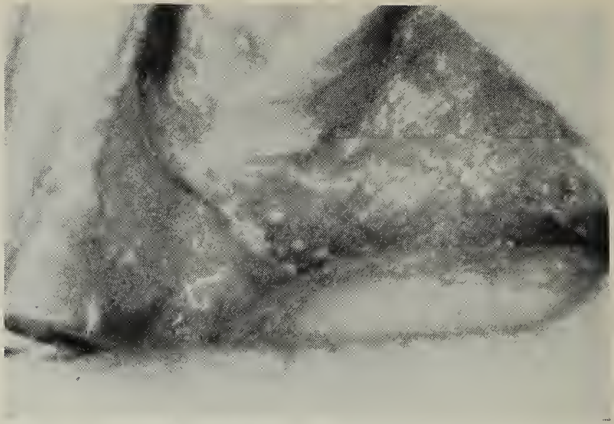


Figure 12.—Moniliasis (candidiasis). The patient received numerous antibiotics for recurrent kidney infections in the three months preceding this picture. A white-pearly lesion occurred previously. The infection responded to nystatin therapy.

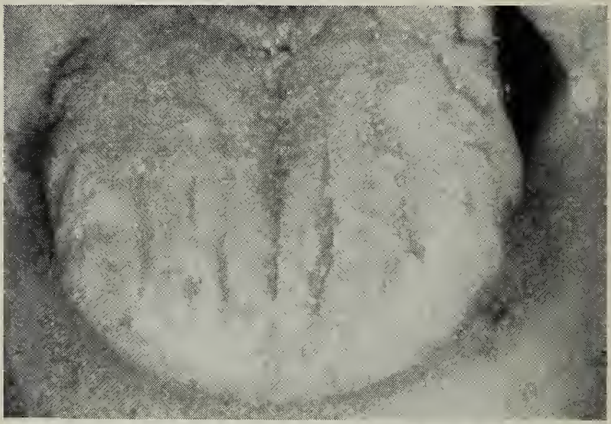


Figure 13.—Geographic tongue (benign migratory glossitis). This fissured tongue contains typical white, linear lesions of geographic tongue. Because there is no remarkable coating of the tongue in this case, the lesions are not as dramatic as in some cases. This condition is most frequently seen in patients with fissured tongue and frequently the white linear areas are not observed because of the prominent fissuring. Very frequently the pain of fissured tongue is actually due to the presence of these lesions.

Lichen Planus. This presents a distinctive linear keratotic lesion (Wickham's striae) which exhibits no pattern of local response to irritation. The buccal mucosa lesions are most distinctive but the lesions can occur in any area. On the gingiva the condition often becomes erosive and is called gingivosis (see Figure 10).

Discoid Lupus Erythematosus. The lower lip and the posterior buccal mucosa are the most common sites. The lesions appear as white, rimmed, erythematous patches (see Figure 11).

Moniliasis. Oral lesions are seldom associated with systemic moniliasis. The lesions occur most often following broad spectrum antibiotic therapy but the condition often develops in debilitated patients. The pearly white lesions are composed of the bulk of the epithelium expanded by edema and containing many of the organisms (see Figure 12).

Oral Dermatological Lesions

The only lesion in this category is a concomitant involvement of the epithelium and lamina propria called *geographic tongue* or *benign migratory glossitis.* Such lesions are often found on fissured rather than smooth tongues. They appear as linear zones of whitish-gray edematous epithelium which sloughs slowly, producing a migratory lesion. (See Figure 13.) Histologically many bacteria invade the epithelium and considerable pain can result.

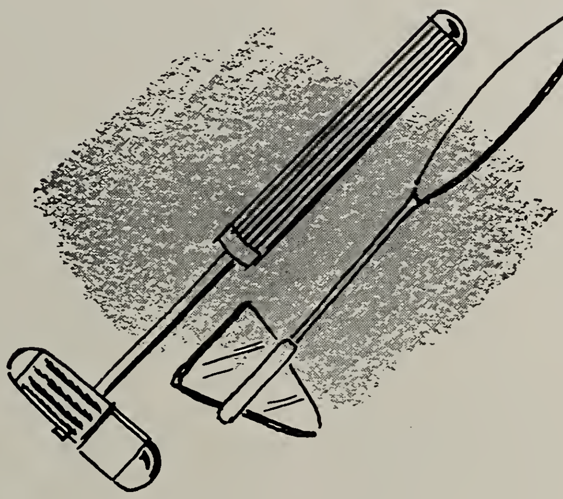
Box 1965, La Jolla, California 92038.

REFERENCES

1. Bernier, Joseph L.: The Management of Oral Disease, 2nd ed., C. V. Mosby, St. Louis, 1959.

2. Lever, Walter F.: Histopathology of the Skin, 3rd ed., J. B. Lippincott, Philadelphia, 1961.

3. Tiecke, Richard W., Stuteville, Orion H., and Calandra, Joseph C.: Pathologic Physiology of Oral Disease, C. V. Mosby, St. Louis, 1959.



CANCER STUDIES

Cancer of the Larynx

GORDON McCOY, *M.D.*, San Francisco

The incidence of laryngeal cancer is relatively low. According to the most recent report from the Public Health Service,[3] 2.5 per cent of all cancers reported in males were laryngeal. Laryngeal cancer occurs principally in males.

The diagnosis of laryngeal cancer is usually not difficult, and the over-all prognosis is relatively good. With early detection and with the proper selection of therapy the cure rate for some forms of vocal cord cancer is as high as 85 per cent. Because there is great variation in cure rate, depending upon the anatomic site of occurrence and the character of spread, careful study of a particular lesion before therapy of any kind is begun is mandatory.

Pathology

Over 95 per cent of all laryngeal carcinomas are squamous cell. Most of the remaining are adenocarcinomas with a rare sarcoma either fibrosarcoma or chondrosarcoma. Carcinomas of the true vocal cord tend to be well or moderately well differentiated. Of carcinomas occurring in other areas of the larynx Ogura found that 10 per cent are well differentiated, 48 per cent moderately well differentiated and 42 per cent undifferentiated.[21]

Classification

Proper classification of laryngeal cancer is important. It is necessary that a uniform method of classification be adopted if reporting of results is to be meaningful. The old classification into endolaryngeal and extralaryngeal cancers has been abandoned. At the Seventh International Congress of Otolaryngology in Paris, 1961, the following classification of cancer of the larynx was adopted.

ANATOMIC CLASSIFICATION

Supraglottic	false cord or ventricle
Glottic	limited to the true cord
Subglottic	below the vocal cord
Transglottic	involving two or more of the above areas
Marginal	upper part of epiglottis, aryepiglottic fold, or arytenoid

A theoretical advantage of this classification is the separation of lesions according to two major divisions of lymphatic drainage. The lymphatics from the supraglottic region drain upward and into the nodes of the superior and middle deep cervical chain. Metastasis from this type of cancer ranges up to 33 per cent.[2] Glottic lesions due to the sparsity of lymphatic channels on the true cords themselves metastasize only when the lymphatic chain above or below the cords is involved. The lymphatic channels of the subglottic area drain into major channels either through the cricothyroid membrane or laterally to enter the nodes of the inferior deep cervical chain or superior mediastinum. The incidence of metastasis from this group is reported as 19 per cent.[2] For lesions which involve more than one region the incidence of metastasis is proportionately increased. It is obvious then that a careful classification of any particular laryngeal cancer is important from the standpoint of expected behavior in lymphatic spread and hence proper selection of therapy.

DIAGNOSIS

Hoarseness is generally regarded as the most common symptom of laryngeal cancer. Unless the lesion is located on the true vocal cords or has impaired vocal cord function, hoarseness will not be present. Supraglottic or subglottic tumors will not produce hoarseness unless the true cord is also involved. Hence, even though hoarseness is an important and common symptom, its absence cannot be taken as meaning the larynx is not involved. Significant pain is not a symptom of laryngeal cancer unless the lesion appears or encroaches on extralaryngeal areas such as the vallecula, the pyriform sinus or the lateral pharyngeal wall. Referred pain to the ear may occur if the lesion involves the arytenoid area. Such discomfort as might be related by the patient will not in many instances impress the physician unless he is thinking of the possibility of cancer. Complaints such as of a sticking sensation, a sense of fullness, an irritation, repeated clearing of the throat or a

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To appear as part of the revised Cancer Studies.

scratchy sensation on swallowing are often heard and are likely to be ignored. If any of these, however, is constant and persistent, it must be investigated.

Because the larynx has a prime function as a sphincter organ, any disturbance in this function should be noted. Aspiration of food or liquids after a cough on swallowing is significant. An ineffective or altered cough may represent an interference in the sphincteric function. Obstruction to respiration is a late symptom of laryngeal cancer and it occurs with large exophytic or advanced invasive lesions. Hemoptysis is not common but may occur, particularly with subglottic tumors. Dysphagia is common in post-cricoid and pyriform sinus lesions, but absent in endolaryngeal cancers. Epiglottic lesions are relatively "silent" until they are large enough to be obstructive or invade the vallecula, whereupon sore throat is related. Oftentimes the appearance of a lump in the neck prompts a patient to see his physician before the development of any other significant symptoms. Such a mass in the cervical region demands a careful study not only of the laryngeal region, but the nasopharynx, tonsils, tongue and hypopharynx. A biopsy of such a mass should not be done until a careful search has been made for the primary location. To do so can complicate the definitive treatment.

Examination

Inspection of the external landmarks of the larynx is occasionally helpful. The thyroid cartilage should be in the midline and should show no distortion when visually comparing one side of the thyroid lamina with the other. On occasion a large extralaryngeal tumor may push the larynx to one side or a large invasive endolaryngeal tumor may produce a fullness on one side of the thyroid cartilage. The thyroid cartilage should be palpated for definition of landmarks, and the neck carefully examined. Indirect laryngoscopy with the laryngeal mirror in most instances brings the larynx and perilaryngeal areas into clear view and any abnormality is easily visualized. A reasonably adequate clinical impression may be gained from this simple procedure and a normal larynx easily recognized. With only an hour or two of practice with a head mirror and a laryngeal mirror any physician can visualize the larynx and soon learn to recognize variations from normal. If such were more commonly practiced on patients with suspected laryngitis many cases of laryngeal cancer would be diagnosed earlier and treated more successfully.

Should the larynx be found abnormal in any respect on indirect laryngoscopy, further examination methods are available to diagnose laryngeal cancer and properly plan the treatment. In experienced hands biopsy may be done indirectly with the larynx visualized in the laryngeal mirror. Even in expert hands, however, direct laryngoscopic examination of a lesion is necessary before a recommendation as to therapy can be given. Direct laryngoscopy should be done under general anesthesia, and the exact extent of the lesion carefully ascertained. There are few places in the body where exactness of location and extent of a cancer are so important in selection of treatment and in prognosis.

Because of the ease of visualization of the larynx and the facility with which biopsy may be done, cytologic studies of the sputum have not been generally used or found helpful. Roentgenographic studies, however, have been of help not only in diagnosis but in determining the extent of a lesion. Soft tissue x-ray studies, particularly tomograms, are helpful. Esophagrams done with contrast media may show pooling, distortion and filling defects. These are used as adjuncts to other methods of examination and are not solely relied upon.

TREATMENT

Surgical operation and x-ray therapy are used in the treatment of laryngeal cancer. The selection of the proper form of treatment is of utmost importance. There are definite indications for one or the other forms dependent on location, extent, presence of palpable nodes and the likelihood of microscopic metastasis. Because the cure rate varies so greatly between cancers in different locations, exact knowledge of the lesion is necessary before advice as to treatment is given. The attitude that a lesion may be treated by either x-ray therapy or surgical operation is deplorable. A physician should make a definite recommendation. Selection between methods is not for the patient.

The anatomic location is the prime factor in determining the treatment to be used. The relative competence of the surgeon and the radiotherapist, however, should be thoughtfully considered. The outline of treatment which follows assumes that the radiotherapist and the surgeon are of equal competence. The cellular differentiation of a laryngeal cancer has little to do with the selection of treatment.

Glottic lesions. Cancers confined to the vocal cords do not metastasize and have the highest incidence of cure. A lesion of the true vocal cords should be treated with x-ray therapy if there is no extension onto the undersurface of the cord, and if there is by palpation a fibrovascular connective tissue base separating the tumor from the perichondrium of the thyroid cartilage. This is true irrespective of whether the lesion is on the middle, the anterior or the posterior portion of one or even both cords. In true vocal cord lesions the cure rate with operation is about equal to that obtained with x-ray. Therefore, since function is preserved in those treated with x-ray, surgical operation for cordal lesions should be reserved for one of the following three circumstances:

1. Lesions which are invasive and have no fibrovascular connective tissue bed between the base of the tumor and the perichondrium of the thyroid lamina. Invasiveness will cause partial or complete fixation of the cord if it is extensive. Invasiveness to the degree of cord fixation is not necessary, however, to preclude x-ray therapy. The lack of a soft fibrovascular connective tissue bed as demonstrated by palpation during direct laryngoscopy is sufficient.
2. Lesions which, although originating on the true cord, extend for as much as 1 centimeter below the free edge of the cord.
3. Lesions which have had primary x-ray therapy and have not been cured.

The type of operation to be used in cordal lesions will depend upon which one of the three circumstances listed above it is for. For invasive lesions, such as described in the first instance, either hemilaryngectomy or wide field total laryngectomy is done, depending upon the location of the tumor on the glottis and the degree of cord fixation. Hemilaryngectomy may be done if the cord is not fixed and the lesion is limited to one cord or to the region of the anterior commissure on both cords. Fixation of either cord or significant extension onto the arytenoid dictates total laryngectomy. Total laryngectomy must also be done in lesions of the first group which significantly involve both cords. For glottic lesions which extend onto the undersurface of the cord as much as 1 centimeter, total laryngectomy is advised. Lesions which extend into the true subglottic region below the undersurface of the true cord are regarded as involving more than one region and more extensive operation is needed. Glottic cancers of the third group, comprising those in which recurrences have developed after x-ray therapy, are treated by either cordectomy or laryngectomy, depending upon the site and size of recurrence, the degree of post-irradiation reaction and the time interval between the completion of x-ray therapy and the recurrence.

Cordectomy may occasionally be done if the recurrence is small, located on the middle one-third of the cord, there is little post-irradiation reaction, and no more than six months has elapsed since completion of the x-ray therapy. In all other instances of post-irradiation recurrence of glottic cancer, wide-field total laryngectomy is necessary. There is no place for more conservative partial laryngectomy in this circumstance.

Supraglottic lesions. For cancers which occur on the ventricle, the false cord or the laryngeal surface of the epiglottis, laryngectomy and neck dissection are required, irrespective of palpable lymph nodes. Smaller lesions of less than 2 centimeters may not yet have metastasized, but the incidence of metastasis is so great and the neck dissection adds so little to morbidity that an en bloc neck dissection should accompany laryngectomy in all supraglottic cancers. If the lesion has crossed the midline, a bilateral neck dissection either in one or two stages is indicated. The incidence of cervical metastasis in supraglottic cancer is reported to be 33 per cent.[2] For this reason and the fact that squamous cell carcinoma in lymph nodes responds poorly to x-ray therapy, surgical operation is the treatment of choice.

Subglottic lesions. Cancers arising in the subglottic region are best treated by laryngectomy and radical neck dissection en bloc. Due to the proximity of the lesion to the cartilages of the larynx and upper trachea, x-ray therapy has no place in the treatment of these lesions whether or not spread has occurred.

Transglottic lesions. Lesions which have begun in one region and have extended to one or more other regions are classed, for purposes of selection of treatment, into one group referred to as the transglottic group. All transglottic cancers are treated by laryngectomy and neck dissection. X-ray therapy is of no curative value.

Marginal lesions. Cancers which occur on the free portion of the epiglottis, aryepiglottic folds, arytenoids, pyriform sinuses and post-cricoid regions are classed as marginal lesions. The presence of a lesion on any one of these regions necessitates neck dissection. Lateral pharyngotomy with resection of the primary lesion by subtotal laryngectomy and neck dissection is practiced by a few laryngologists with wide experience in this field.[1,6] Until greater experience in this conservative operation is gained, it is best that those with more limited experience perform total laryngectomy with an en bloc neck dissection for all cancers in the marginal group. X-ray therapy in this group is seldom curative.

Operation is contraindicated if there is distant metastasis, if there are fixed cervical nodes or if the patient is in extremely poor physical condition. The presence of bilateral palpable nodes does not in itself contraindicate operation.

PROGNOSIS

The five-year cure rate varies greatly in laryngeal cancer, depending upon the location of the lesion. Glottic cancers are associated with the highest rate of survival, marginal lesions the lowest. A five-year cure rate based on surgical removal is reported[4] as follows: glottic, 70 per cent; subglottic, 42 per cent; pyriform sinus, 25 per cent. With improved surgical techniques and increased experience it is expected that the over-all cure rate will be further improved.

490 Post Street, San Francisco, California 94102.

REFERENCES

1. Alonso, J.: Conservation surgery of cancer of the larynx, TR. Am. Acad. Ophth., 51:633, 1947.

2. McGavran, M. H., Bauer, W. C., and Ogura, J.H.: The incidence of cervical lymph node metastases from epidermoid carcinoma of the larynx, Cancer, 14:55, 1961.

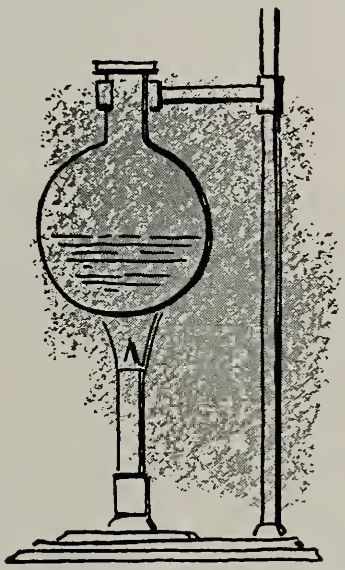
3. Morbidity from Cancer in the United States, Public Health Monograph 56, U.S. Dept. of Health, Education and Welfare, Jan., 1958.

4. Ogura, J. H.: Cancer of the larynx, pharynx and upper cervical esophagus: five year results of laryngectomy and radical neck dissection for laryngeal cancer, A.M.A. Arch. Otolaryn., 72:66, 1960.

5. Ogura, J. H.: Laryngograms: their value in the diagnosis and treatment of laryngeal lesions, Laryngoscope, 70: 780, 1960.

6. Ogura, J. H., Saltzstein, S. L., and Spjut, H. J.: Experiences with conservation surgery in laryngeal and pharyngeal carcinoma, Laryngoscope, 71:258, 1961.

7. Powers, W. H., McGee, H. H., Jr., and Seaman, W. B.: Contrast examination of the larynx and pharynx, Radiology, 68:169, 1957.



CASE REPORTS

Management of Cerebral and Cardiac Complications of Subacute Bacterial Endocarditis in an Adolescent

MARVIN L. AUERBACK, *M.D.*, San Mateo, LAWRENCE ARNSTEIN, *M.D.*, Palo Alto, BENSON B. ROE, *M.D.*, and ELLEN SIMPSON, *M.D.*, San Francisco

ONE OF THE recurrent problems of clinical medicine is to decide when heroic investigative or therapeutic measures are indicated. The case here reported brings additional light to such problems.

REPORT OF A CASE

A 12-year-old boy of Mexican parentage was in good health (except for second degree burns of his legs suffered as a young child) until three months before admittance to hospital. There was no history of rheumatic fever or antecedent heart disease. The patient began to feel increasingly tired and fatigued, with occasional precordial pain, anorexia, night sweats, lassitude and a continual low grade fever. When these symptoms finally became disabling he was referred to San Mateo General Hospital.

On admission he was able to describe his own history very adequately, but appeared both chronically and acutely ill, with oral temperature of 102°F, a pulse rate of 140 and respirations of 36 per minute. There was no clubbing, petechia or cyanosis. Significant findings were those related to the cardiovascular system. Distention of the jugular vein 4 cm above the manubrium was noted. The heart was very active, with right ventricular heave and a continuous thrill over the apex, which was 1 cm lateral to the midclavicular line at the fifth interspace. A harsh grade III pansystolic (regurgitant type) apical murmur was well transmitted toward the axilla and sternal edge (Figure 1). A rumbling late diastolic murmur and a very loud third heart sound were best heard at the apex. The second heart sound was loudest in the pulmonic area but not significantly split.

The liver edge was 3.5 cm below the right costal margin and was moderately tender. There was only minimal peripheral edema and the patient had no neurological abnormalities.

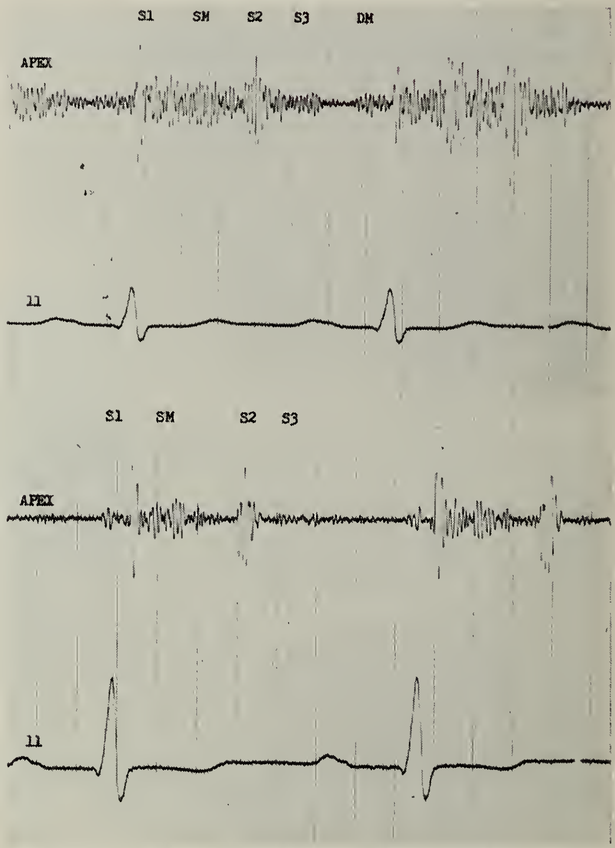


Figure 1.—Phonocardiograms taken at the apex, before and after operation on the heart. Tracing above is before and the one below is after operation. Note the decreased intensity of the systolic murmur (SM), diastolic murmur (DM), and a third heart sound (S3) after operation.

Laboratory findings were startling—in some instances because of what they did not show. An x-ray film of the chest showed normal cardiac size and configuration, without evidence of pulmonary vascular plethora. An electrocardiogram was within normal limits (Figure 2). A hemogram showed some leukocytosis and mild normochromic anemia. Three cultures of blood drawn shortly after admission grew a streptococcus viridans that was very sensitive to penicillin. Massive doses of penicillin were given (8.5 million units daily, intramuscularly, in divided doses) and digoxin and, within a few days the patient was afebrile and blood cultures were sterile.

From the Department of Pediatrics, and the Department of Surgery at the University of California Medical Center, San Francisco, and the Department of Surgery, Stanford University School of Medicine, Palo Alto.

Submitted August 8, 1963.

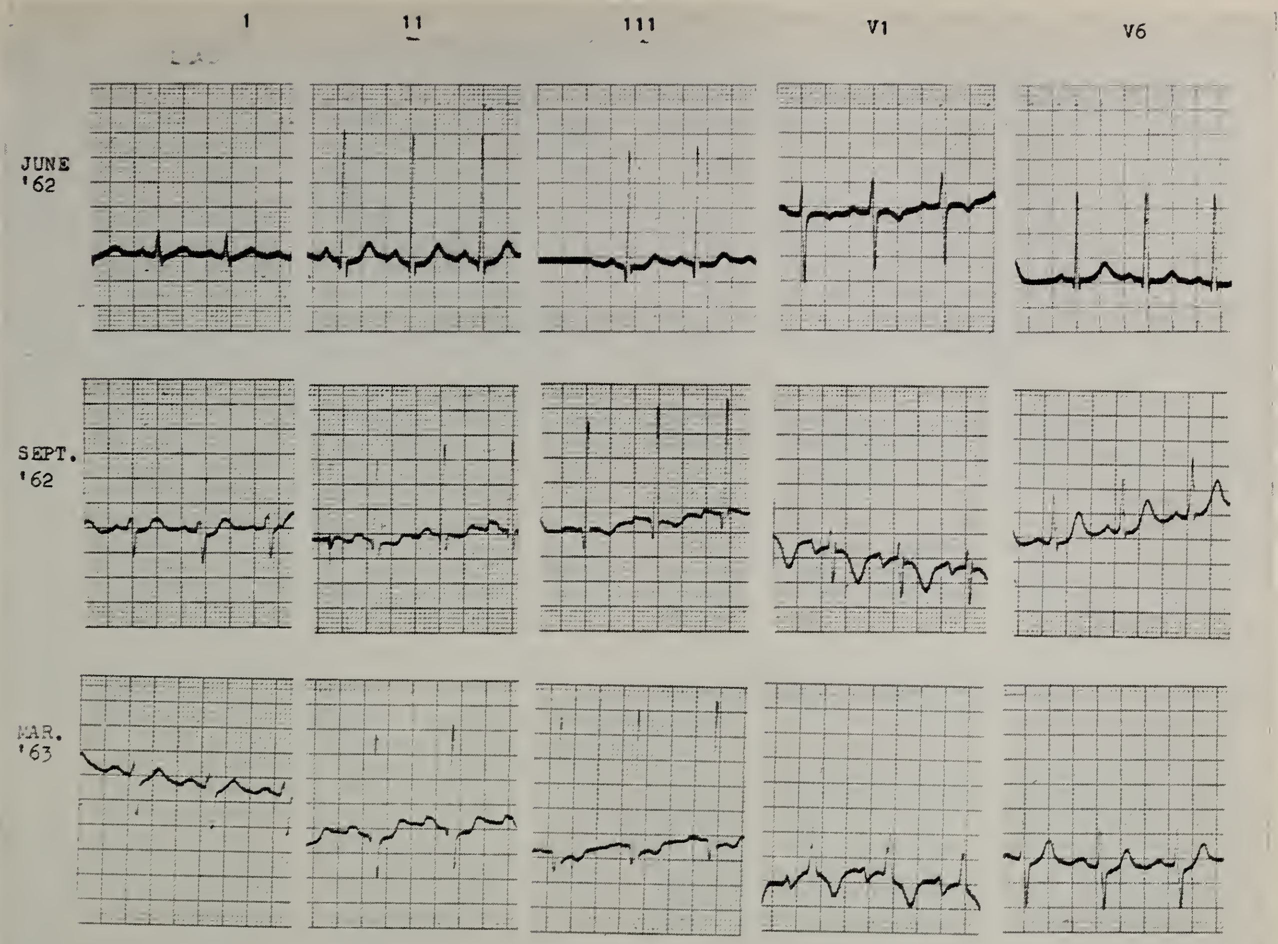

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Figure 2.—Electrocardiograms taken over a nine-month period showing increasing right axis deviation and right ventricular hypertrophy.

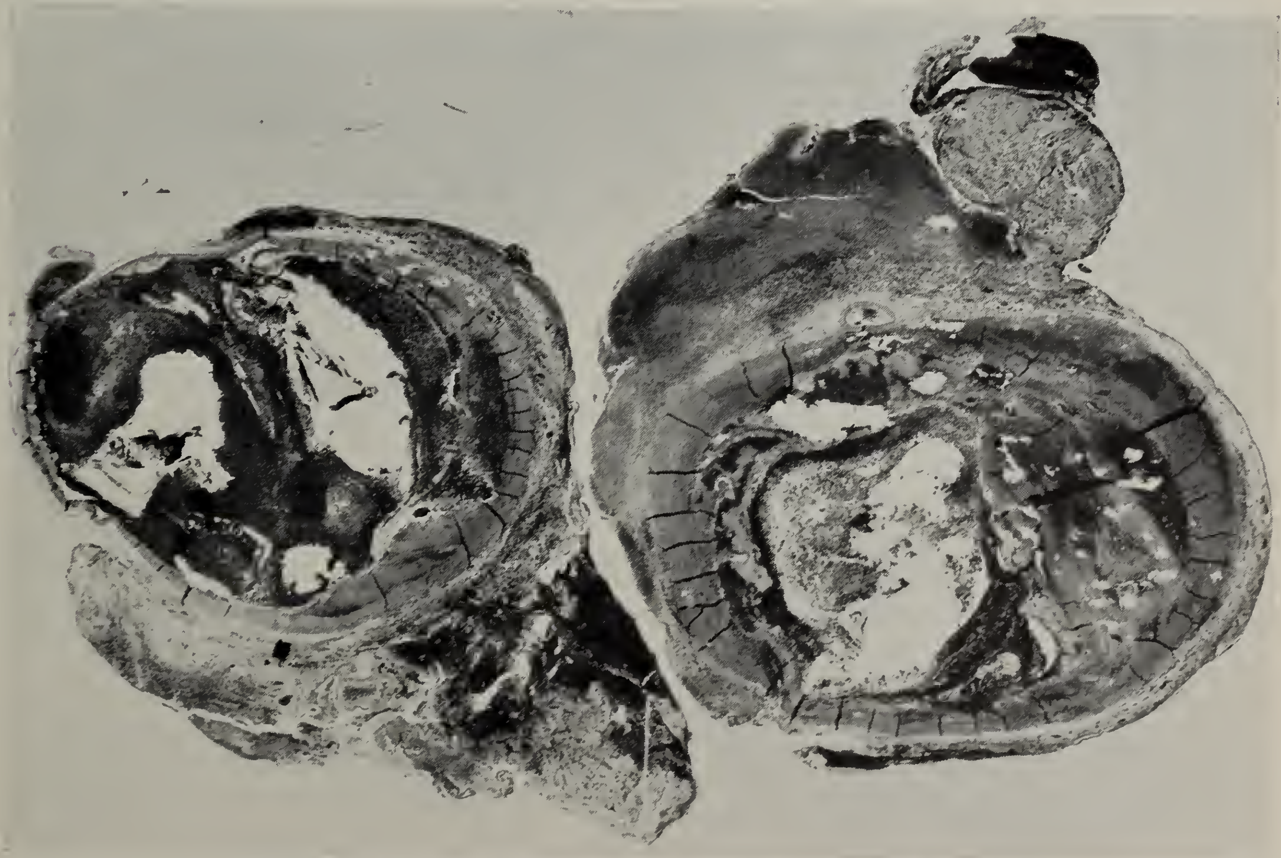

Figure 3.—Photomicrograph of excised mycotic cerebral aneurysm (× 300).

CASE REPORTS

Management of Cerebral and Cardiac Complications of Subacute Bacterial Endocarditis in an Adolescent

MARVIN L. AUERBACK, *M.D.*, San Mateo, LAWRENCE ARNSTEIN, *M.D.*, Palo Alto, BENSON B. ROE, *M.D.*, and ELLEN SIMPSON, *M.D.*, San Francisco

ONE OF THE recurrent problems of clinical medicine is to decide when heroic investigative or therapeutic measures are indicated. The case here reported brings additional light to such problems.

REPORT OF A CASE

A 12-year-old boy of Mexican parentage was in good health (except for second degree burns of his legs suffered as a young child) until three months before admittance to hospital. There was no history of rheumatic fever or antecedent heart disease. The patient began to feel increasingly tired and fatigued, with occasional precordial pain, anorexia, night sweats, lassitude and a continual low grade fever. When these symptoms finally became disabling he was referred to San Mateo General Hospital.

On admission he was able to describe his own history very adequately, but appeared both chronically and acutely ill, with oral temperature of 102°F, a pulse rate of 140 and respirations of 36 per minute. There was no clubbing, petechia or cyanosis. Significant findings were those related to the cardiovascular system. Distention of the jugular vein 4 cm above the manubrium was noted. The heart was very active, with right ventricular heave and a continuous thrill over the apex, which was 1 cm lateral to the midclavicular line at the fifth interspace. A harsh grade III pansystolic (regurgitant type) apical murmur was well transmitted toward the axilla and sternal edge (Figure 1). A rumbling late diastolic murmur and a very loud third heart sound were best heard at the apex. The second heart sound was loudest in the pulmonic area but not significantly split.

The liver edge was 3.5 cm below the right costal margin and was moderately tender. There was only minimal peripheral edema and the patient had no neurological abnormalities.

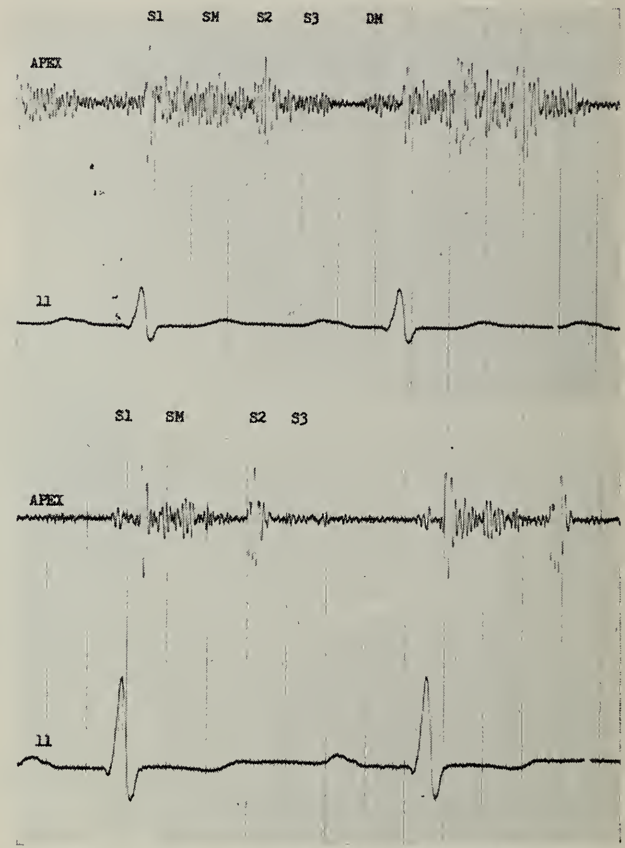

Figure 1.—Phonocardiograms taken at the apex, before and after operation on the heart. Tracing above is before and the one below is after operation. Note the decreased intensity of the systolic murmur (SM), diastolic murmur (DM), and a third heart sound (S3) after operation.

Laboratory findings were startling—in some instances because of what they did not show. An x-ray film of the chest showed normal cardiac size and configuration, without evidence of pulmonary vascular plethora. An electrocardiogram was within normal limits (Figure 2). A hemogram showed some leukocytosis and mild normochromic anemia. Three cultures of blood drawn shortly after admission grew a streptococcus viridans that was very sensitive to penicillin. Massive doses of penicillin were given (8.5 million units daily, intramuscularly, in divided doses) and digoxin and, within a few days the patient was afebrile and blood cultures were sterile.

From the Department of Pediatrics, and the Department of Surgery at the University of California Medical Center, San Francisco, and the Department of Surgery, Stanford University School of Medicine, Palo Alto.

Submitted August 8, 1963.

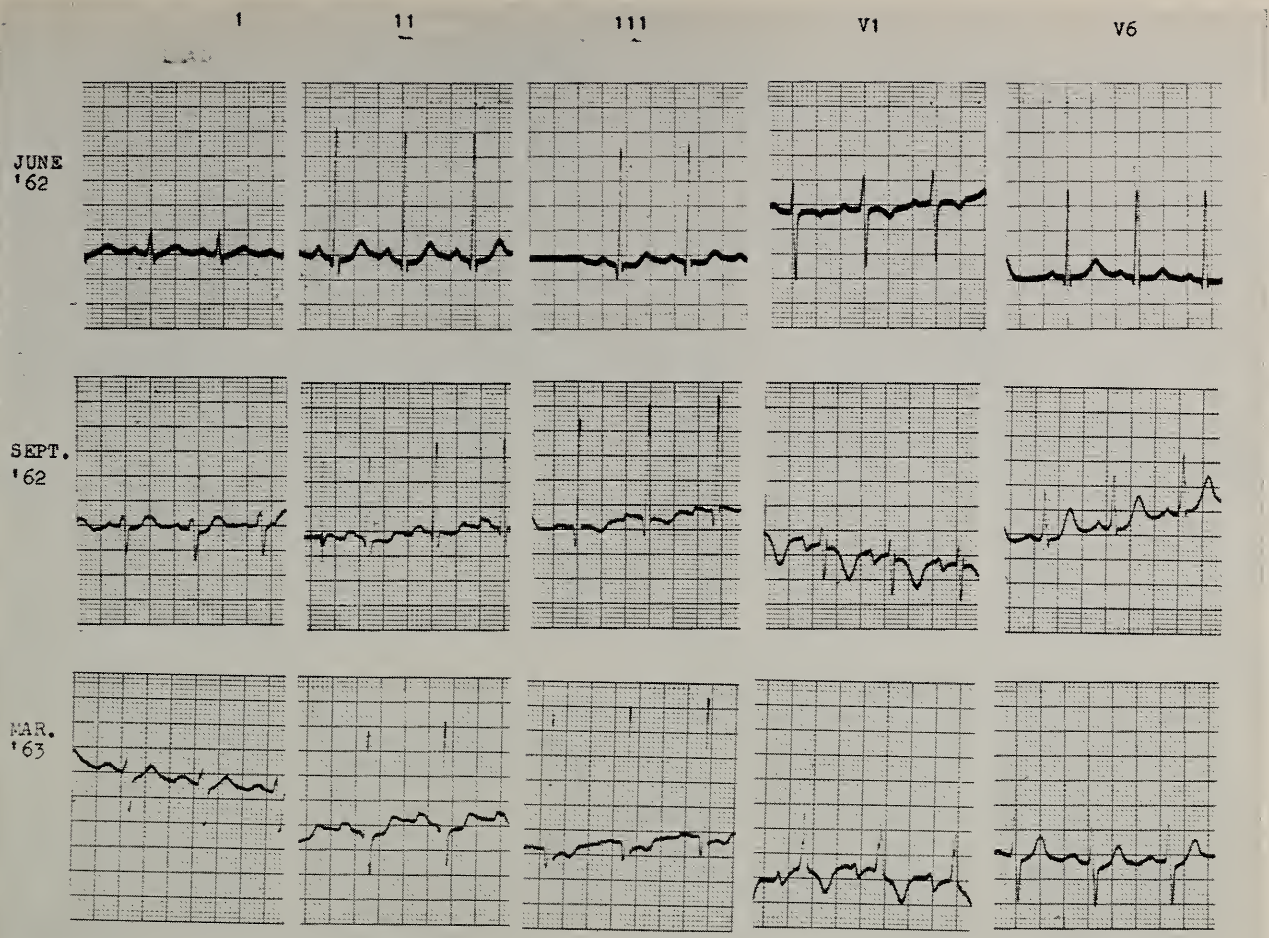

Figure 2.—Electrocardiograms taken over a nine-month period showing increasing right axis deviation and right ventricular hypertrophy.

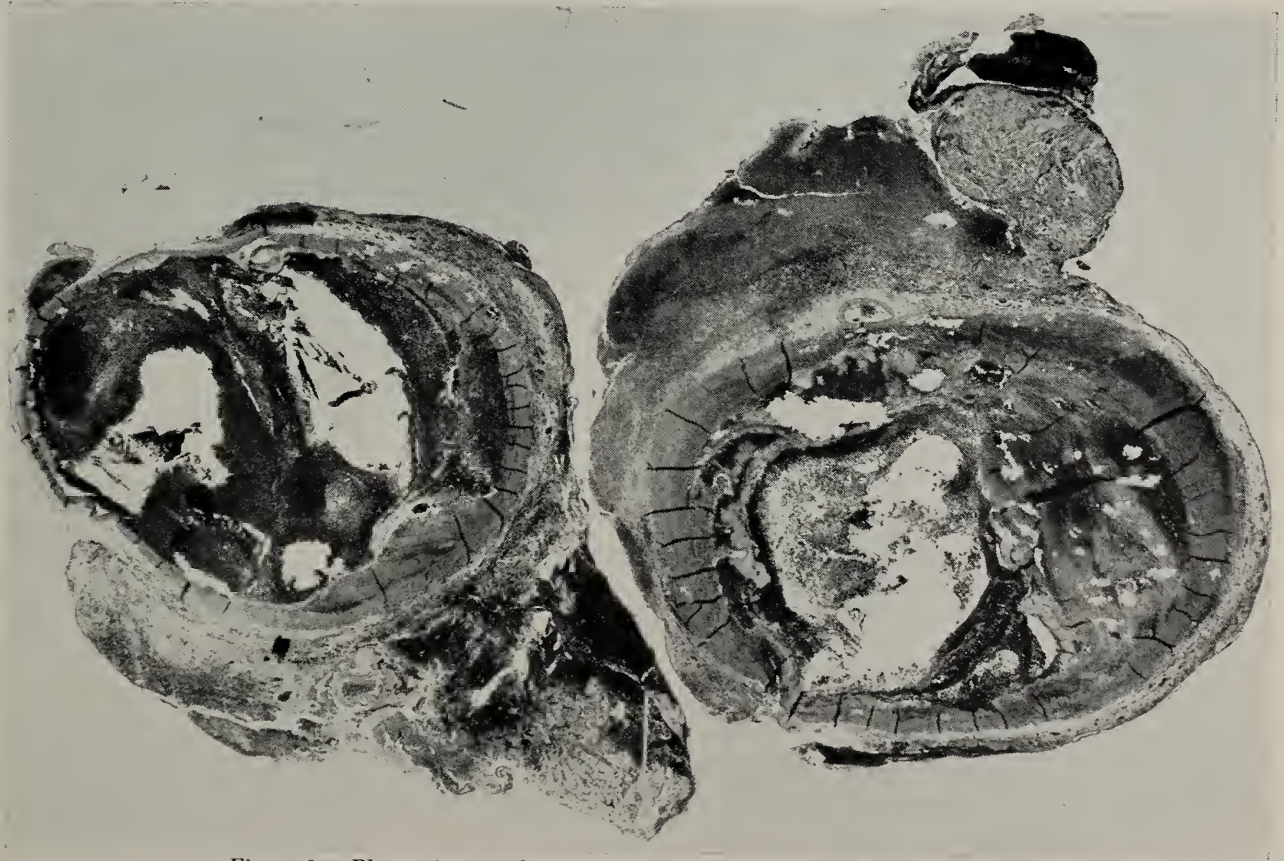

Figure 3.—Photomicrograph of excised mycotic cerebral aneurysm (× 300).

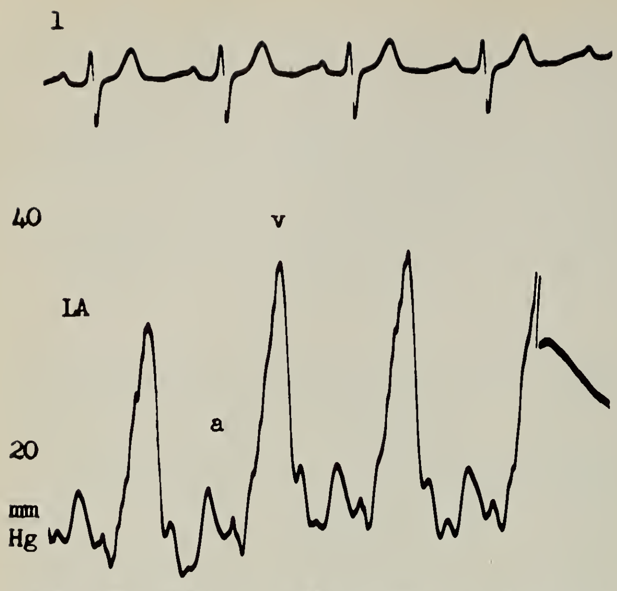

Figure 4.—Left atrial (LA) pressure tracing showing tall v-wave. The upper tracing is of lead 1 of the electrocardiogram. Lower case letters indicate a-wave and v-wave.

The condition of the heart, however, was not improved. Serial roentgenograms taken a few weeks apart showed increasing cardiomegaly. The patient remained in borderline failure, even when digitalized to near-toxic levels. Heart murmurs remained unchanged and were so loud and coarse that it was feared that a vegetation might break off and lodge in a cerebral vessel.

Four weeks after admission the patient had a sudden grand mal seizure and became comatose. Complete left hemiplegia developed. This was ascribed to acute occlusion of a major branch of the right middle cerebral artery. Cerebral arteriograms which were made even though the condition of the patient seemed almost hopeless, revealed a ruptured aneurysm with a large intracerebral hemorrhage originating from the frontal-parietal branch of the right middle cerebral artery.

During 72 hours of observation there was no clinical improvement and the intracerebral bleeding was apparently continuing. In an attempt to drain the hematoma, craniotomy was performed. A large area of interstitial hemorrhage involving the white matter of the right hemisphere adjacent to the motor cortex was drained, revealing the aneurysm, which was clipped and excised (Figure 3). Within 48 hours, the patient began to awaken and, although he was hemiplegic, his intellect seemed unimpaired. Digitalis and penicillin were continued and in addition dilantin was given as an anticonvulsant.

Pathological examination of the aneurysm showed that the vascular walls were infiltrated with leukocytes. Although no organisms could be found on culture, it was felt that this was an aneurysm of mycotic, rather than congenital, origin.

Over the next eight weeks, the patient improved gradually. His left leg responded more rapidly than his left arm to physical therapy and he had no further acute neurological difficulties. The heart, although no longer in obvious failure, continued to enlarge and increased right ventricular hypertrophy was shown by electrocardiogram (Figure 2). The murmurs continued unchanged.

After a total of three months in hospital the patient was discharged with prescription of anticonvulsant, anticongestive and antibiotic therapy. He received physical therapy at home and showed progressive neuromuscular improvement.

In the succeeding six months he had two episodes of grand mal seizures triggered by increasing fluid accumulation secondary to cardiac failure. The heart continued to enlarge and electrocardiograms showed increasing right ventricular hypertrophy. The second heart sound was very loud in the pulmonic area.

Nine months after craniotomy, combined right and left cardiac catheterization was carried out for pathophysiologic appraisal of the heart. The right ventricular pressure was 90/18 mm of mercury and the left atrial pressure (Figure 4) showed a v-wave of 40 mm of mercury. These findings confirmed the clinical impression of severe incompetence of the mitral valve associated with decided pulmonary hypertension.

In the course of ten months, the heart had increased considerably in size and the right ventricular pressure had mounted to almost the systemic level. Because of this evidence of progressive cardiac embarrassment, surgical intervention was recommended.

On exposure the mitral valve ring was relatively normal in appearance and the mitral leaflet edges were intact, free of scar and contraction. There was no evidence of previous rheumatic disease. A 1.5 cm hole in the mural leaflet of the mitral valve had small patches of vegetation on its soft edges. The defect was closed by suture and posterior annuloplasty was performed. Measurements in the operating room showed that the left atrial pressure was reduced from 40 to 15 mm of mercury and the pulmonary artery pressure from 80/40 to 50/20 mm. For the first time since the onset of illness the patient's heart was quiet and no longer hyperactive. The cardiac status thereafter was excellent and, except for a grade I-II apical systolic murmur (Figure 1), the heart appeared to be essentially normal. At last report the patient showed continued good response to physical therapy and he was attending school full time.

DISCUSSION

Cerebral hemorrhage is one of the main causes of death in children with subacute bacterial endocarditis.[1] Arteriograms to locate the site of the intracerebral accident are only rarely performed and operations to remove the hemorrhage are even less frequently attempted. Certainly coma in a child with serious heart disease is reason for hesitation before undertaking such investigative procedures. Our experience suggests, however, that a cerebral arteriogram is a legitimate study in such a situation.

In this patient, neurosurgical intervention was lifesaving, even though undertaken in the face of formidable hazards. The same can be said about the operation on the heart. Fortunately the defect was mechanical rather than a bad deformity of the mitral valve—something that could be determined only by inspection of the valve. It would have been tragic not to attempt to arrest the otherwise downhill course in this case.

Throughout his illness the patient showed great determination to recover. He took his medicines faithfully and tried hard to rehabilitate himself. His uncomplaining good nature inspired the members of his medical teams to do everything possible to help him.

19 W. 39th Avenue, San Mateo 94403 (Auerback).

REFERENCE

1. Keith, John D., Rowe, Richard D., and Vlad, Peter: Heart Disease in Infancy and Childhood, New York, Macmillan, 1958.

Uric Acid Renal Disease in Acute Leukemia

JOHN S. TROMBOLD, M.D., La Jolla,
ARNOLD S. ROLAND, M.D., San Diego, and
ARTHUR A. MARLOW, M.D., La Jolla

HYPERURICEMIA IS A recognized complication in untreated patients with leukemia. It is especially frequent following therapy with alkylating agents, purine analogs, radiation or adrenal corticosteroids, because of subsequent rapid destruction of cells and breakdown of nucleoproteins.[4,7] There is a corresponding rise in the urinary excretion of uric acid under these conditions. This is particularly pronounced in acute lymphoblastic leukemia.[13] If urate solubility in urine is exceeded, uric acid crystals and calculi may be formed, either in the distal and collecting tubules or in the extra-renal collecting system. If sufficiently extensive, the result may be bilateral obstructive uropathy and oliguric renal failure.[3,8,12]

This is the report of a patient with acute lymphoblastic leukemia in whom oliguric renal failure developed following treatment with prednisone and 6-mercaptopurine. The condition was successfully managed by vigorous administration of alkali.

REPORT OF A CASE

A nine-year-old girl was first seen January 25, 1963 with chief complaint of fatigue of two weeks' duration. This was associated with easy bruisability, mild epistaxis and vomiting. Abnormalities observed on physical examination were pallor, low grade fever, retinal and gingival hemorrhages, sternal tenderness, 6 cm hepato-splenomegaly, and several purpuric and petechial lesions scattered over the lower extremities. Results of neurological examination were within normal limits.

Results of laboratory studies were as follows: hematocrit 24 per cent, leukocytes 179,000 per cu mm with 48 per cent lymphoblasts, platelets 26,000 per cu mm, blood urea nitrogen 14.3 mg per 100 ml, uric acid 11.9 mg per 100 ml and urine pH 5.5. Many uric acid crystals were present in the urine sediment. Bone marrow aspirate showed 61 per cent lymphoblasts with a notable decrease in megakaryocytes and erythroid precursors. A diagnosis of acute lymphoblastic leukemia was made.

The patient received one unit of blood, and administration of prednisone, 40 mg daily, was begun. She was encouraged to increase her fluid intake. The leukocytes responded initially to prednisone therapy, but complete remission was never achieved and at the end of three weeks of treatment the leukocyte count was 80,000 per cu mm with 20 per cent lymphoblasts. The serum uric acid decreased to 4.7 mg per 100 ml and the urine contained no uric acid crystals.

Bilateral peripheral seventh nerve palsy developed suddenly after three and a half weeks of prednisone. This was treated with local x-radiation and responded slowly. Due to the decided relapse of leukemia, prednisone was reduced and 6-mercaptopurine, 2.5 mg per kilogram of body weight per day, was instituted. After three weeks of 6-mercaptopurine, complete hematological remission was obtained. During this period results of urinalysis and the serum uric acid were within normal limits.

On April 24 the patient was in hematologic relapse and 6-mercaptopurine was discontinued. Prednisone, 40 mg daily, was begun again. At this time, the uric acid had risen to 24 mg per 100 ml and the blood urea nitrogen to 50 mg per 100 ml. Uri-

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From the Scripps Clinic and Research Foundation, La Jolla.
Submitted June 27, 1963.

nary pH was 4.5 and the urine was loaded with amorphous urates. Fluid intake was increased and oral administration of a sodium citrate-citric acid alkalinizing mixture* was begun. At this time the patient was alert and there was minimal residual bilateral facial palsy. The remainder of the physical examination was unremarkable except for 6 cm hepato-splenomegaly.

The urinary output gradually decreased to an oliguric level of 320 ml in 24 hours on the fourth hospital day. At this time the patient became very confused, restless and twitching of facial musculature developed. The blood urea nitrogen was 65 mg per 100 ml, uric acid 17.3 mg per 100 ml creatinine 6.3 mg per 100 ml, and serum potassium 3.8 mEq per liter. The urine pH, which had initially risen to 7.5 on administration of the oral alkalinizing solution, had dropped to 6.5. At this time, intravenous fluids were instituted and an attempt was made to increase urinary output by intravenous infusion of 25 grams of mannitol. This was unsuccessful. Ureteral catheterization and retrograde pyelograms revealed no evidence of post-renal urinary tract obstruction. Leukemic infiltration of the kidneys was suggested by widening of the renal cortices (Figure 1).

Due to persistent oliguria (200 to 300 ml in 24 hours) intravenous fluids were limited to 400 ml (estimated insensible loss) plus the previous day's urinary output. Sodium bicarbonate was given intravenously in a dosage average 150 mEq daily in an attempt to raise the urine pH. In addition, methyl-prednisolone was given intravenously as antileukemic therapy. The 24-hour urinary output gradually increased as the urine pH rose and by the tenth hospital day had reached a volume of 1960 ml. At this time, despite the onset of diuresis, the blood urea nitrogen was 91.5 mg per 100 ml, uric acid 39.5 per 100 ml and creatinine 8.3 mg per 100 ml. The sodium was 131 mEq per liter, potassium 5.3 mEq per liter, chloride 91 mEq per liter and carbon dioxide 16 millimols per liter. Shortly thereafter, the patient complained of severe left flank pain which radiated into the left groin. This subsided over a period of several days. No stones were recovered from the urine. However, many red blood cells were noted in the urine during this period.

The patient remained seriously ill during the second week in hospital despite the onset of diuresis. She became more anemic and required transfusions. However, by the twenty-first hospital day she was alert enough to take fluids and soft foods by mouth. Her urinary output was normal and the urine pH was maintained at 7.5. Laboratory studies at that time showed blood urea nitrogen 15.5 mg per 100 ml, uric acid 3.8 mg per 100 ml, creatinine 0.7 mg per 100 ml, sodium 140 mEq per liter, potassium 3.4 mEq per liter, chloride 110 mEq per liter and carbon dioxide content 27.4 millimols per liter. The leukocyte count decreased to 1750 per cu mm and no lymphoblasts were noted on smears. Thrombocytopenia persisted. Ten days later, the patient relapsed while on oral prednisone therapy. Amethopterin 2.5 mg per day was instituted. The patient gradually improved to the point that she was discharged on the forty-fourth hospital day. She was then followed as an outpatient.

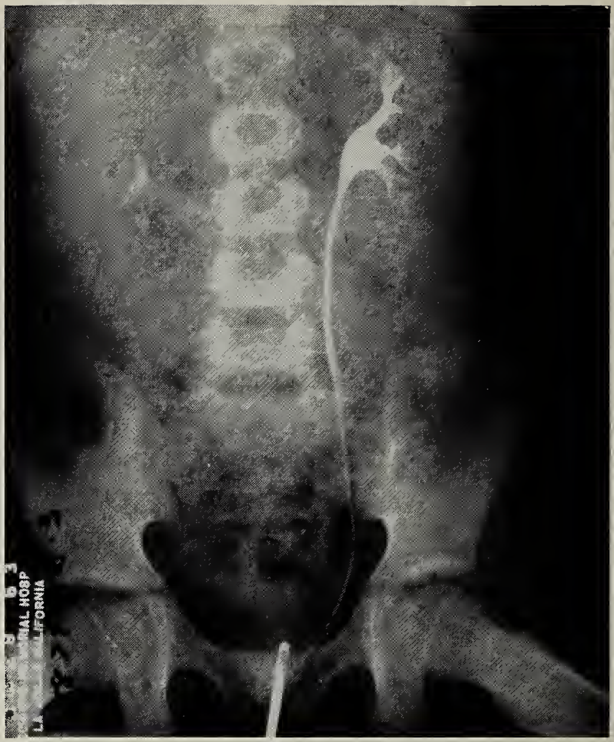

Figure 1.—Retrograde pyelogram showing widening of renal cortices which suggested leukemic infiltration of the kidneys.

In summary, acute oliguric renal failure developed following treatment of acute leukemia. This was associated with a decided rise in uric acid levels, to as high as 39.5 mg per 100 ml. The oliguria was believed to be due to the precipitation of urates in the renal tubules. Post-renal obstruction was ruled out by ureteral catheterization. Careful fluid and electrolyte management and vigorous treatment with alkali were carried out. Diuresis ensued and all chemical and clinical evidence of uremia cleared.

DISCUSSION

Oliguric renal failure due to uric acid crystalluria is a potentially preventable complication of the treatment of leukemia with cytotoxic agents. It has been emphasized that adequate hydration and alkalinization of the urine will prevent uric acid precipitation.[4,6] Alkalinization is particularly important because of the wide variations of urate solubility with changes in pH. Peters and Van Slyke[11] estimated the solubility of total urate in urine to increase from 8 mg per 100 ml at pH 5.0 to 22 mg per 100 ml at pH 6.0, and 158 mg per 100 ml at pH 7.0 to 1,520 mg per 100 ml at pH 8.0. The decided increase in solubility, beginning at pH 7.0, indicates the prophylactic value of an alkaline urine. This can be accomplished by oral administration of sodium bicarbonate, a citric acid-sodium citrate mixture (Shohl's solution) or acetazolamide (Diamox). Dosage should be regulated by frequent determinations of urine pH. Sodium lactate should be avoided as an alkalinizing agent, since it has been shown to decrease renal clearance of urates and may thereby contribute to hyperuricemia.[15]

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*Sodium citrate 100 gm and citric acid 50 gm per 100 ml.

Management of oliguric renal failure due to uric acid precipitation involves several phases:

1. Ureteral catheterization to rule out extra-renal obstruction. If the ureters are blocked by crystals or calculi of uric acid, passage of the catheter or irrigation with alkaline solutions may relieve the obstruction.[8,9] Occasionally nephrostomy or ureterostomy is necessary.

2. Once extra-renal obstruction has been eliminated as a factor and the site of obstruction has been localized to the tubules, an attempt may be made to reestablish urine flow by the use of an osmotic diuretic. Barry and coworkers[1] reported the successful use of intravenous mannitol in two patients. This therapy was unsuccessful in the case herein reported.

3. Administration of alkali, by mouth if tolerated, or intravenously. Due to the metabolic acidosis accompanying oliguria, large amounts of alkali may be required in order to raise urine pH to a satisfactory level. Such therapy was successful in this case in establishing diuresis, presumably by causing the obstructing tubular urate precipitates to go into solution.

4. If conservative therapy is unsuccessful, peritoneal dialysis[1,2] or the artificial kidney[3] may be used. It has been shown that large amounts of urates may be removed from the body in this way. Urates may be mobilized from the kidney as well as from extra-renal sites.[5] Duke[2] reported the removal of 4.8 gm of uric acid during a single peritoneal dialysis. Rapid reductions of blood uric acid can be produced by dialysis, especially when the artificial kidney is used. The effect of such urate removal is frequently the establishment of a diuresis, probably by mobilization of precipitated uric acid from the kidney.

The presence of leukemic infiltration of the kidneys (suggested in the case herein reported by widening of the renal cortices noted on retrograde pyelography) is generally not associated with functional renal impairment.[10] It is possible, however, that leukemic infiltration prevents the excretion of uric acid in quantities commensurate with the level of hyperuricemia and in this manner may predispose to the development of renal failure.[14]

SUMMARY

A case of oliguric renal failure due to tubular precipitation of uric acid following treatment of acute leukemia is reported. Prevention of this complication can be achieved by maintaining a good urinary output and, especially, by alkalinization of the urine. The roles of mannitol diuresis, alkali and dialysis in management are reviewed.

2290 Sixth Avenue, San Diego, California 92101 (Trombold).

REFERENCES

1. Barry, K. G., Hunter, R. H., Davis, T. E., and Crosby, W. H.: Acute uric acid nephropathy, Arch. Int. Med., 111:452-459, April 1963.

2. Duke, M.: Peritoneal dialysis in leukemia and uric acid nephropathy, Am. J. Med. Sci., 245:426-431, April 1963.

3. Firmat, J., Vanamee, P., Klauber, L., Krakoff, I., and Randall, H. T.: The artificial kidney in the treatment of renal failure and hyperuricemia in patients with lymphoma and leukemia, Cancer, 13:276-282, March-April 1960.

4. Gold, G. L., and Fritz, R. D.: Hyperuricemia associated with the treatment of acute leukemia, Ann. Int. Med., 47:428-434, Sept. 1957.

5. Goldberg, M., Castleman, L., Friedman, I. S., and Wallace, S. L.: The artificial kidney in the treatment of chronic tophaceous gout, J.A.M.A., 182:870-872, Nov. 24, 1962.

6. Herrington, R. T., and Fallon, H. J.: Uric acid nephropathy in leukemia, N.E.J.M., 266:934-935, May 3, 1962.

7. Krakoff, I. H.: Urinary uric acid excretion in leukemia, in The Leukemias: Etiology, Pathophysiology, and Treatment, ed. by Rebuck, J. W., Bethell, F. H., and Monto, R. W., Academic Press, Inc., New York, 1957, p. 401-416.

8. Kravitz, S. C., Diamond, H. D., and Craver, L. F.: Uremia complicating leukemic chemotherapy, J.A.M.A., 146:1595-1597, Aug. 25, 1951.

9. Kritzler, R. A.: Anuria complicating the treatment of leukemia, Am. J. Med., 25:532-538, Oct. 1958.

10. Norris, H. J., and Wiener, J.: The renal lesions in leukemia, Am. J. Med. Sci., 241:512-517, April 1961.

11. Peters, J. P., and Van Slyke, D. D.: Quantitative Clinical Chemistry: Interpretations, Vol. 1, 2nd Ed., Williams and Wilkins, Baltimore, 1946, p. 953.

12. Richmond, G. H., and Beardsley, G. D.: Nitrogen mustard therapy complicated by acute renal failure due to uric acid crystallization, Ann. Int. Med., 39:1327-1332, Dec. 1953.

13. Sandberg, A. A., Cartwright, G. E., and Wintrobe, M. M.: Studies on leukemia, I. uric acid excretion, Blood, 11:154-166, Feb. 1956.

14. Weisberger, A. S., and Persky, L.: Renal calculi and uremia as complications of lymphoma, Am. J. Med. Sci., 225:669-673, June 1953.

15. Yü, T. F., Sirota, J. H., Berger, L., Halpern, M., and Gutman, A. B.: Effect of sodium lactate infusion on urate clearance in man, Proc. Soc. Exp. Biol. Med., 96:809-813, Dec. 1957.

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EDITORIAL

Physician and Hospital

PHYSICIANS AND HOSPITALS can and should work cooperatively with each other for the sake of the patient. That this relationship exists in most instances is amply proved by the smooth working relationships and by the favorable statistics on hospital stays by the patients served by both.

Nonetheless, in recent years there have been numerous instances where the basic interests of the two have seemed to diverge and to place them in warring camps against each other. Instances of this type have occurred in professional liability cases, where the physician and the hospital may tend to pass liability one to another, or in legislative proposals where a measure would apparently favor one over the other. When such problems arise, it is easy for commentators to talk about being stabbed in the back or other caustic comment.

Thus it is particularly reassuring to the physicians of California today to realize that between the California Medical Association and the California Hospital Association there exists a warm feeling of mutual interest.

This feeling has been developing over a long period and was first overtly expressed when the California Hospital Association invited the CMA president to appear as a guest speaker on its annual convention program. From that start a program was developed of maintaining a joint liaison committee for the establishment of continued sound communications. The Council of the CMA for the past two years has been happy to welcome the president of the CHA at its regular meetings and to allow him time on a busy agenda to make such reports or statements as he feels are warranted.

In addition, the CHA has cooperated fully in implementing the Guiding Principles for Physician-Hospital Relationships and has urged its hospital members to seek the review procedures under this program to assure the patient of a more productive hospital stay.

Now it is particularly pleasurable to have the CHA appear alongside CMA in testifying before the House Ways and Means Committee in opposition to HR 3920, the King-Anderson Bill. Mr. Clifton Linville, CHA president and administrator of the Fresno Community Hospital, presented his association's beliefs on this legislation in admirable fashion. His entire statement appears on page 217 of this issue.

The welding of interests of physicians and hospitals cannot but have a beneficial effect for the patient who needs the services of both. These concrete examples of a community attitude indicate that such a marriage is taking place, with the blessings of the public for both parties.

CPS—A Silver Anniversary

CALIFORNIA PHYSICIANS' SERVICE, the nation's first statewide medically-sponsored medical care cost plan, has just completed its first quarter century of existence.

Its beginnings, its early trials and its original sponsors and pilots are detailed on page 204 of this issue in an article by Doctor John W. Cline, one of those who helped man this vehicle in its beginning days and who subsequently carried the ideals and principles of CPS into the national arena as president of the AMA.

Doctor Cline's recital needs no repetition here but it is suggested as must reading, especially for the many physicians who have migrated to California from other states since this vital organization was formed. The importance of this type of medical care protection—to physicians, to their patients and above all to the American people at large—cannot be overestimated. The Cline coverage gives CPS bone and sinew and relates its beginnings and its progress in terms of all physicians of the past 25 years and of today.

May this be a happy birthday for CPS and only the twenty-fifth of many more to come.

Dean Bostick

Appointment of Doctor Warren L. Bostick as dean of the California College of Medicine last month drew cheers from physicians throughout the state, especially from those with a special interest in the well-being of this school.

Doctor Bostick, who was reared in San Diego, received his medical education at the University of California, where he was the first recipient of the Gold Headed Cane, an honor bestowed annually on the graduating student whose combination of scholarship, attitude and prospects for reflecting glory on the profession of medicine is adjudged the finest in the class.

Specializing in pathology, Warren Bostick established laboratory facilities in Marin County, where he has long served as an outstanding specialist in his field. In addition to his private duties there he was also named as chief of pathology at San Quentin, where he early recognized that the training of laboratory assistants from the ranks of long-time inmates would neatly solve the problem of turnover. He also continued his affiliation with UC, where he became chief of laboratory services and taught in the medical school.

Organizationally, he has long been active in his county society, in the CMA and the AMA. A past president of CMA, he has for some years been a California delegate to AMA, where his analytical and persuasive powers have been prominent on many occasions. In the CMA he continues as chairman of the Bureau on Communications, a vital link in the entire CMA structure.

Warren Bostick will bring to the school not only his lively scientific interest and his medical school teaching and clinical background but a wealth of talent, interest and energy. It is pleasant to note that Dr. Bostick was among the diligent men who brought this youngest of America's medical schools into being, and his intense desire to see the school spring into a lively contemporary in the medical teaching field has never flagged.

We can only wish him great success and happiness in his new post and pledge the continued cooperation of the CMA in helping him reach the high goals which he indubitably has set for the school. To the trustees and officers of the school, we can gladly offer congratulations on this choice.

California MEDICAL ASSOCIATION

NOTICES & REPORTS

CPS 25 Years Old

TIME PASSES so swiftly that it is hard to realize that 1964 marks the 25th anniversary of California Physicians' Service. Those who participated in its creation so vividly recall the surrounding circumstances that it seems to be a much more recent event.

In the nineteen twenties the prosperity and opulence, which pushed the stock market to a then all time high, caused people to ignore the signs of economic disaster abroad. They blindly believed it could not happen here.

The crash of the stock market in late 1929 ushered in the worst depression the United States ever experienced. It brought many problems with it and brought others into sharp focus. One of these was the difficulty of financing medical care.

Groups of California physicians began studying methods of alleviating this difficulty. European plans of socialized medicine were carefully scrutinized and rejected because of the loss of freedom and the impairment of the standards of medical care inherent in governmental control and dictation.

A few service plans were in operation in certain localities. These were studied. No statewide program existed. The policies offered by the insurance companies were inadequate and covered an insignificant portion of those who most needed protection.

Certain politicians seized upon the distress of the times to push socialized medicine for their own selfish reasons. They were aided and abetted by a small number of physicians for reasons best known to themselves.

The basic structure of CPS had begun to take form in the minds of physicians who had seriously studied the problem. Evolution of the plan had reached a point where its proposal to the California Medical Association was imminent. The exact timing of its introduction probably was influenced by the election of Governor Olson in November 1938. He was committed to the socialization of medicine in California. The composition of the Legislature was such that it could be counted upon to defeat his radical proposal, but his election emphasized the need for action. It came none too soon.

Those who were present at the special meeting of the CMA House of Delegates in the headquarters of the Los Angeles Medical Association will remember the debate on this occasion. The wise leadership of the CMA introduced the proposal in a factual and dispassionate manner. Then came the bursts of fiery oratory by the opponents. The proposal was called socialistic and worse. The House was singularly unimpressed by the sound and fury of the opposition and overwhelmingly voted to establish CPS.

The principal architects of the program were Dr. Alson R. Kilgore and Dr. T. Henshaw Kelly. Their wisdom, vision and devotion during the formative period are in large part responsible for the ultimate success of CPS. Dr. Ray Lyman Wilbur, despite his heavy responsibilities as President of Stanford, consented to be president of CPS and supplied real and effective leadership. Others, of course, made substantial contributions, but these three names stand out. Medicine in California owes a great debt to them in memoriam.

The launching of CPS presented many difficulties. Inertia and even active opposition in some quarters had to be overcome. By the end of 1939 about 5,000 physicians were participating and approximately 7,000 persons had been enrolled for coverage.

SAMUEL R. SHERMAN, M.D. . . . . President
JAMES C. DOYLE, M.D. . . . . President-Elect
WILLIAM F. QUINN, M.D. . . . . Speaker
IVAN C. HERON, M.D. . . . . Vice-Speaker
CARL E. ANDERSON, M.D. . . Chairman of the Council
BURT L. DAVIS, M.D. . . . Vice-Chairman of the Council
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General Office, 693 Sutter Street, San Francisco 94102 • PRospect 6-9400
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From the outset and for a long time thereafter CPS experienced financial troubles. There were no reserves to cushion the impact of unanticipated expense from month to month. When current income was insufficient to cover these items, funds were distributed on a pro rata basis. Today such a program would be fantastic. In the early days of the struggle to succeed, the majority of physicians was convinced the plan *had* to work and they *made* it work. CPS today stands as a living tribute to the statesmanship of the physicians of 25 years ago.

Some physicians were pleased to have segments of their practices removed from a charity status, even though the payments were small. More grumbled, but the great majority loyally supported the program.

The growth of CPS was slow. In 1945 when Governor Warren reportedly became convinced that socialized medicine could be a stepping stone to the Presidency, he proposed a warmed over version of the half-baked plan espoused by his predecessor. He sneered at CPS as "a miserable little thing of 100,000."

The Governor used his personal prestige and the full power of his office in an effort to force his proposal through the Legislature. The bill was held in Committee by one vote. When he made the effort to have the Assembly Committee discharged from consideration of the bill and have it brought to the floor, we again won by the narrow margin of a 39 to 38 vote. "The miserable little thing of 100,000" permitted the wiser heads of the Legislature to bolster their opposition by commenting that the profession was in the process of solving the problem of prepaid medical care in a constructive fashion. It is disturbing to contemplate what might have happened if it had not been for CPS.

CPS stood as a bastion protecting the freedom of medicine in 1945 and has done so repeatedly since in the intervening years. It has, also, exercised great influence in another and less direct manner.

After the legislative battle in 1945 the CMA became convinced that CPS could not do the job alone. It decided to engage in a campaign to popularize health insurance in general and push all good varieties of coverage. The insurance companies cooperated and the policies offered were more realistic than they might otherwise have been because of the presence of CPS and the competition it offered.

The physicians of California showed the way. The American Medical Association followed the same pattern of action nationally in fighting socialized medicine during the Truman Administration of 1948-1952.

The early days of struggle and extraordinary financial arrangements have long since passed. The CPS we now know operates on a sound fiscal basis and maintains proper reserves. The reserve funds more than meet the requirements of regulatory agencies and stabilize current payments in times of unusual demand for medical care.

An orderly system of review and adjustment of fee schedules insures that CPS programs are fair to the physician and his patient alike. Currently 90 per cent of the CPS fee schedules are based on the CMA Relative Value Studies and the conversion level is being adjusted upward on a continuing basis to keep pace with rising economy.

At the present time more than 16,500 physicians participate in CPS. This exceeds twice the number of physicians in private practice in California at the end of World War II. This constitutes strong evidence that the medical profession of California respects CPS for what it is and is not simply clinging to a long time allegiance.

The foresight and courage of California physicians in launching the first statewide professionally directed and controlled prepayment plan had great national influence. Michigan followed shortly and then other states formed plans similarly directed and controlled. In 1946 the AMA established a National Blue Shield organization.

More than 52 million Americans or 25 per cent of the population are covered by Blue Shield plans. CPS covers 6 per cent of the population of California, or one million subscribers. It may seem strange that the influence and example of CPS appears greater elsewhere than in the state of its origin. This probably is best explained by the continuing effort of the CMA to encourage the purchase of all good varieties of health insurance in order to secure the maximum coverage of our population.

CPS was designed to be flexible enough to undertake experimental pilot programs under the guidance and control of the profession. The founders of CPS envisioned further intrusion of government at all levels in the financing of medical care and made provision for CPS to be the vehicle by which government programs could be handled within the framework of the free enterprise system at the lowest cost to the taxpayer, and under the guidance of the medical profession. It serves as fiscal administrator for the coverage of 225,000 under the Military Dependent Medicare Program, 180,000 under the various categories of the Public Assistance Medical Care Program and 180,000 under the Medical Assistance to the Aged Program. It is capable of doing the same in other areas of governmental financing of medical care.

CPS often has been the subject of discussion in the House of Delegates of the CMA. In some instances carping and destructive attacks have been made upon it. In the main, however, efforts at constructive change have motivated the discussions and have resulted in alterations improving and strengthening CPS. This is the great advantage of a medically controlled and operated prepayment plan. It is flexible enough to meet changing medical conditions and is responsive to the opinions and wishes of the profession. The changes which have taken place in CPS have exerted great influence on the entire field of health insurance in California.

CPS is a splendid answer to the critics of medical organizations who claim that they are always negative, opposing every suggestion for extension of medical care. These claims, of course, are sheer political propaganda. American Medicine has done more to improve the health and medical care of the people of the United States than anyone else and probably more than all others combined. CPS is a shining example.

CPS has served the public well. In so doing it has served the profession well. It has been a flexible agency in supplying prepaid medical care. It has been a bulwark protecting the freedom of medical practice.

We have cause to be grateful for CPS. The physicians who conceived CPS and those who have directed its progress and the lay administrators who have conducted its operations deserve our thanks.

We, the physicians of California, should strongly reaffirm our confidence in CPS on its 25th anniversary.

John W. Cline, M.D.

Council Meeting Minutes

Tentative Draft: Minutes of the 497th Meeting of the Council, San Francisco, Hilton Inn, January 4, 1964.

The meeting was called to order by Chairman Anderson in the Hilton Inn, San Francisco International Airport, on Saturday, January 4, 1964, at 10:00 a.m.

Roll Call

Present were President Sherman, President-Elect Doyle, Speaker Quinn, Vice-Speaker Heron, Secretary Hosmer, Editor Wilbur and Councilors MacLaggan, Wilson, Todd, Gooel, O'Neill, Bullock, O'Connor, Ham, Rogers, Dalton, Murray, Davis, Miller, Watts, Campbell, Hudson, Kaiser, Anderson, Dozier, Grunigen, Cosentino and Shaw. No absences.

A quorum present and acting.

Present by invitation were Messrs. Hunton, Thomas, Clancy, Collins, Marvin, Whelan, Klutch, Clark, Tobitt, Edwards, Bowman and Mrs. Griffith of C.M.A. staff; Messrs. Read, Salisbury, Putnam and Brown of the Public Health League of California; county executives Scheuber of Alameda-Contra Costa, Rideout of Butte-Glenn, Rosenthal of Forty First, Lingerfelt of Fresno, Williams of Los Angeles, Colvin of Monterey, Dochterman of Sacramento, Donmyer of San Bernardino, Nute of San Diego, Neick of San Francisco, Thompson of San Joaquin, Wood of San Mateo, Donovan and Pearce of Santa Clara and Brown of Sonoma; Doctor Malcolm Merrill, State Director of Public Health; Doctor Lester McDonald of the State Department of Social Welfare; Doctor Ernest Klatte, interim director of the State Department of Mental Hygiene; Doctor T. Eric Reynolds and Messrs. Paolini, Nyron, Bentley, Potoff and Heller of California Physicians' Service; Doctor William Reinhardt, dean of University of California School of Medicine; Clifton Linville, president of the California Hospital Association; John Pompelli of the AMA; Richard Layton of AMPAC; Doctors Warren L. Bostick, Carl Goetsch, Russell Fisher, Osman Hull, Harold Kay, Leopold J. Snyder, president of Fresno County Medical Society, and others.

1. Minutes for Approval

Minutes of the 496th meeting of the Council, held November 16-17, 1963, were presented and amendments offered and approved in several items.

ACTION: Minutes approved as amended.

2. Reconsideration of Action

SUMMARY: Councilor Kaiser requested reconsideration of an action taken at the last previous meeting, when it was voted to suggest to the State Board of Health that no change be made in present regulations which bar visitors, including fathers, from hospital delivery rooms. Motion to reconsider was voted.

Doctor Kaiser then moved that the Association recommend to the State Board of Health that this regulation be rescinded and that the decision to admit fathers to delivery rooms be left to the discretion of hospital staffs and attending physicians.

ACTION: The above proposal was voted. Doctor Malcolm Merrill, State Director of Public Health, stated matter would come before the Hospital Advisory Board on January 8. It was voted that the C.M.A. be represented at that time and Councilor MacLaggan, a member of this board, stated he would convey the Council's decision to the board. Doctor Carl Goetsch of Berkeley, present in the room and announcedly in favor of the revised decision, announced his intention to attend also.

3. *Membership*

(a) A report of membership as of December 31, 1963, was presented and ordered filed.

(b) Motion was made and seconded to reinstate to membership 60 members whose dues delinquency had been cleared and reinstatement requested by their component societies. VOTED

(c) Motion was made and seconded to elect to Associate Membership five applicants, approved by their component societies. VOTED, to include the following: Marian Mason, Robert E. Ploss, E. F. Schmerl, Alameda-Contra Costa; Benjamin Woro, San Diego County; James C. Dawson, Sonoma County.

(d) Motion was made and seconded to elect to Retired Membership ten members eligible for and recommended by their component societies. VOTED, to include the following: G. Otis Whitecotton, Alameda-Contra Costa; James G. Hepplewhite, Butte-Glenn County; Anton J. Barmaneder, Los Angeles County; W. Justin Harrison, Riverside County; Merritt C. Canfield, Francis D. Hart, Robert G. Wirth, San Diego County; William M. Fitzhugh, San Francisco; James H. Saint, Santa Barbara County; O. C. Jones, Tulare County.

(e) Motion was made and seconded to grant a waiver of dues for four members for reasons of prolonged illness or postgraduate education. VOTED

4. *Reports of Officers*

PRESIDENT'S REPORT

President Sherman reported that Committee for Emergency Action had met following the November 16-17 Council meeting, had appointed an ad hoc committee to study a hospital construction altercation in Santa Barbara County and had acted on implementation of several actions taken at the November Council meeting . . . reported on his testimony at State Senate Fact-Finding Committee on Social Welfare, where he had presented the Council's suggested improvement in the MAA program . . . stated he would testify before the House Ways & Means Committee in Washington on January 24 . . . reported that national organization for accreditation of nursing homes has agreed that it will allow the California Commission to continue its inspection and certification program and, will, if the national program enters the state, utilize California inspection teams . . . read a letter he had sent to the State Director of Social Welfare, which will hold a medical care advisory committee meeting soon on welfare medical care programs . . . reported that the Committee on the Role of Medicine in Society, under the California Medical Education and Research Foundation, had held several meetings with representatives of the humanities, the behavioral sciences, the clergy, labor, management and publishing, out of which had come, for one thing, an invitation from labor to hold joint meetings to explore, first, non-controversial matters and, later, matters of mutual interest in the field of health care . . . announced that CMERF will meet again in February.

Doctor Sherman was thanked by the chairman for his complete report on a wide scope of activities.

PRESIDENT-ELECT'S REPORT

President-Elect Doyle reported that he had sat for a taped interview to become part of a television roundup on smoking to be telecast by the CBS network in January.

For the Committee on Committees Doctor Doyle announced the names of those proposed for a Committee on Medical Discipline. The committee would consist of Doctors Carl E. Anderson, chairman, and Francis E. West, Samuel R. Sherman, Stuart Knox, Edward H. Crane, Jr., and Dan O. Kilroy. COMMITTEE APPROVED.

For an ad hoc Committee on Council Procedures, Councilor Dalton was proposed as chairman and Councilors Rogers and Cosentino as members. COMMITTEE APPROVED.

Doctor Doyle, in response to a request, proposed that members be named to a joint committee to meet with a similar committee of the California Association of Mental Health. The Committee on Committees was authorized to name such a committee.

CHAIRMAN'S REPORT

The chairman reported that the Santa Barbara County Medical Society and the Santa Barbara County Board of Supervisors had requested the Association to appoint a fact finding committee to investigate charges of restrictive practices by physicians in that area. Doctor Dalton reviewed the background. The chairman stated that the officers had appointed a committee consisting of Doctors Stuart C. Knox, chairman, William Longmire, Jr. and Frank Norman.

ACTION: Appointment of committee ratified.

ACTION: Officers, after receipt and review of committee's report, authorized to release report to Santa Barbara County Medical Society, Santa Barbara Board of Supervisors and others.

5. *State Health and Welfare Agency*

(a) The Chairman introduced Mr. Winslow Christian, director of this agency, who outlined the background behind the formation of this as a section of state government to oversee the handling of all health and welfare programs. Included are the state departments of health, social welfare, mental hygiene and rehabilitation, among which more than 100 health care programs are involved. Mr. Christian discussed the board aspects of some of these programs and commented favorably on the advantages of local administration of many of them. In regard to the provision of health benefits to the aging, he stated that both he and the Governor were convinced that the Social Security mechanism, as proposed in the King-Anderson Bill, is the logical approach to the problem but stated that the Governor was open to suggestion as to the methods to be used.

(b) Doctor Malcolm Merrill, State Director of Public Health, announced meetings of the Hospital Board of his department, to be held in Los Angeles January 8 and the Hospital Board, meeting on January 9 and 10 in Los Angeles.

(c) Doctor Lester McDonald, medical director of the State Department of Mental Hygiene, distributed copies of several publications of the department which carried information previously requested by members of the Council.

(d) The chair introduced Doctor Ernest Klatte, former chief of the Mendocino State Hospital, who has been appointed interim director of the Department of Mental Hygiene.

6. *California Physicians' Service*

REPORT: Doctor T. Eric Reynolds, president, reported that beneficiary membership as of November 30, 1963, stood at 1,053,000 plus, an increase of some 20,000 members in one year despite upgrading of contracts during that period. Claims paid in the first 11 months of 1963 amounted to more than $49 million and at the end of November more than 75 per cent of the members were covered under contracts based on the 1960 Relative Value Studies.

7. *Medical Executives Conference*

REPORT: Mr. Joseph Donovan, chairman, reported on a meeting held January 3 and announced a meeting in Los Angeles February 6 and 7 when the handling of accounts receivable under automated systems will be discussed. He also introduced Messrs. Howard Williams of Los Angeles, Edgar Colvin of Monterey, Howard Pearce of Santa Clara and Perry Baldwin of Fresno County.

8. *California Hospital Association*

REPORT: Mr. Clifton Linville, president, reported that he would testify before the House Ways & Means Committee in Washington on January 23 in opposition to the King-Anderson Bill. He also announced that, contrary to rumor, the American Hospital Association has adopted a policy of strong opposition to this measure.

9. *House of Delegates*

REPORT: Doctor William F. Quinn, Speaker, reported on the naming of an ad hoc committee to consider resolutions brought before the House of Delegates which are not germane to the stated purposes of the Association. Doctor Llewellyn Wilson, chairman of this committee, distributed copies of the report and asked authority to amend the rules of the House of Delegates to provide that resolutions not in keeping with the stated purposes of the Association might be kept in committee and not reported out to the floor.

ACTION: Report and amendment to House rules approved.

10. *Finance Committee*

REPORT: Doctor Davis, chairman, reported committee approval of a request for an amount up to $500 to assist in financing a program of the Medical Executives Conference on accounts receivable.

ACTION: Approved by Council.

REPORT: Doctor Davis reported that an appropriation of funds to assist the Library of the Los Angeles County Medical Association, calculated at the amount of 25c per active member of the Association for the past two fiscal years, could come only from general funds.

ACTION: Voted unanimously to make appropriation.

BUDGET FOR 1964-1965

Doctor Davis presented for the committee a proposed budget for the 1964-1965 fiscal year.

ACTION: Approved reinsertion of LACMA library item on tentative basis, pending report by Scientific Board.

ACTION: Approved inclusion of additional $600 to budget for CALIFORNIA MEDICINE, to make total of $3,600 available for editorial assistance.

ACTION: Budget as presented and as amended approved for presentation to House of Delegates.

11. *Editorial Board*

REPORT: Editor Wilbur reported some delay might be expected in issuance of January issue, due to jurisdictional strike difficulties in printing plant.

Doctor Wilbur requested approval of proposed amendment to Bylaws, to provide for nominations to Editorial Board to come from Scientific Board.

ACTION: Amendment approved for presentation to House of Delegates.

12. Legislation

REPORT: Mr. Ben Read, executive secretary of Public Health League of California, reported 1964 session of State Legislature would convene on February 3 and was expected to remain in session for one to two weeks, then to recess until early March. The Governor is expected to call a special session of the Legislature, to run concurrently with the budget session scheduled in even-numbered years. Subjects to be brought up in such special session, if called, are to be named by the Governor.

13. Liaison Committee to California Hospital Association

REPORT: Councilor MacLaggan, chairman of the Commission on Public Agencies, reported that ten hospitals in Long Beach had been inspected on December 10 under the Guiding Principles and that a large number of requests for such inspections had accumulated. Demand for this service, he stated, may require staff additions.

Mr. Linville reported that the California Hospital Association was cooperating in hospital inspections and was considering making such inspections a requisite to CHA membership.

14. Committee on Adverse Drug Reactions

REPORT: Met on January 3 and considered (1) making a pilot study of adverse drug reactions on a county basis and (2) naming a committee of five to study the reports.

15. Component Society Officers' Conference

REPORT: The ad hoc committee, chairman Councilor Dozier, presented the program developed for the conference on February 8. Program was approved and staff thanked for its work in preparation of conference.

16. Future Role of County Hospitals

REPORT: Ad hoc committee on the Future Role of County Hospitals had mailed its report to members of the Council. Report recommended that county and voluntary hospital services should become integrated community programs and recommended reevaluation of county hospitals, especially in areas where teaching facilities did not exist and where bed occupancy was low or facilities obsolete. It pointed out that ten counties in California do not maintain county hospitals but contract for the care of their wards in neighboring county or in-county private hospitals.

ACTION: Voted to receive report, to disband committee and to appoint a special Council committee to review this report in the light of present situation. Chairman named committee as Councilor Miller, chairman, and Councilors Dozier, Grunigen, Bullock and Dalton as members.

17. Ad Hoc Committee on Santa Barbara County Hospitals

The chairman announced that the committee was meeting at this time and would have a report at a later meeting.

President Sherman reported the wish of Mr. Winslow Christian to be invited to Santa Barbara County to check first-hand on the progress of the CPS-administered welfare medical program and expressed the hope that the society and Councilor Dalton would agree to issue such an invitation.

18. Liaison Committee to State Department of Finance

REPORT: The chair announced that the State Department of Finance had published its listing of fees to be paid for medical services under state programs and that there was no present need to maintain this committee.

ACTION: Voted to thank committee for its work and to disband it.

19. Liaison Committee to CPS on Radiological Procedures

REPORT: Chairman Davis reported that committee was considering a pilot study of x-ray films in selected counties and would make a later report.

20. Commission on Public Agencies

(a) Mr. Thomas reported for the Committee on Adoptions that Resolution No. 59-63, suggesting approval of adoptive parents in advance of actual adoption in independent procedures, was approved in principle but that practical difficulties were foreseen in an attempt to secure legislation to require such advance approval. It was brought out that one component society had offered the services of its social worker and that some representatives of the State Department of Social Welfare were willing to see a pilot study in one or more counties.

ACTION: Voted to ask Committee on Adoptions to confer with the Medical Executives Conference to select a county where a fair trial of the suggested procedure might be performed.

(b) For the Committee on the Private Practice of Medicine by Medical School Faculty Members, Mr. Thomas reported that the first recommendation of Resolution No. 41-63, referred to this committee, was not considered by the committee to be within its purview. This section requested that the deans of medical schools be urged to include in their curricula instruction on the use and hazards of x-ray and other ionizing radiation sources.

ACTION: Voted to ask staff, with assistance from Scientific Board, to direct letter to deans of medical schools inquiring into current practices in regard to this type of education.

21. *Commission on Community Health Services*

(a) Doctor Harold Kay, chairman, reported that the "Health Tips" release on poisoning had been printed in the monthly bulletin sent to subscribers to Pacific Gas & Electric Co. and that 6,880 requests for copies of a poison chart had been received.

(b) Committee on Blood Banks reported on reorganization of California Blood Bank System, suggesting that C.M.A. discontinue issuing certificates of approval to county-society sponsored blood banks but agree to act as a co-sponsor of the System; the C.M.A. Committee on Blood Banks to be continued.

ACTION: Voted to accept the report of the committee and the commission.

(c) Commission has met with representatives of other interested groups in a study of clinical laboratories; report will be sent to the Council.

(d) Reports will be sent to the Council on commission action on Resolutions Nos. 5, 33 and 74, of 1963 House of Delegates and Resolution No. 86 of 1962 House.

(e) The commission presented a statement explaining the applicability of the "Good Samaritan" law and requested that it be publicized in all available media to the medical profession in California.

(f) The Committee on Occupational Health presented a proposed continuing form for parental consent for treatment of minors employed in industry, such consent to be of a continuing nature for the care of industrial injuries.

ACTION: Form approved for use.

(g) Committee on School Health requested authority to employ paid consultants in drafting guide lines for implementing programs of physical examinations of teachers at a local level. Cost of $800 proposed to be paid such consultants to be shared by California Teachers Association.

ACTION: Voted to disapprove request and use of paid consultants for this purpose and committee instructed to proceed with development of suitable guides without paid assistance.

22. *Commission on Professional Welfare*

REPORT: Messrs. Hassard and Whelan reported on offerings to members of retirement program under terms of Keogh Law. More than 4,200 inquiries were received as result of one mailing and 242 members subscribed to plan prior to December 31, together with 93 office employees.

23. *Scientific Board*

REPORT: Doctor Edward B. Shaw, chairman, reported that Board would meet on January 25 and discuss a number of items accumulated for its agenda. Later report will be made.

24. *California Joint Study of Student Health and Performance*

REPORT: Request received from this organization for naming of two representatives on the technical and scientific sections of a study of students to be conducted under a grant advanced by the California Dairy Council.

ACTION: Appointed Doctor Gerald G. Jampolsky, chairman of Committee on School Health, for service in technical section and Councilor Ham on the scientific council.

25. *Mental Health Awards Program*

The chairman presented a request from the California Association of Mental Health and the California Council for Retarded Children, seeking co-sponsorship of an annual symposium and awards program and asking a contribution of $50 to help defray costs. Participation has been approved by the Committee on Mental Health.

ACTION: Voted to co-sponsor program and to pay a $50 contribution.

26. *Inter-Agency Council on Tuberculosis*

Request from the California Tuberculosis and Health Association was presented for naming a C.M.A. representative on this council. Two former C.M.A. representatives were both unable to serve.

ACTION: Voted to name Doctor Eugene Miller as C.M.A. representative.

27. *Monterey County Medical Society*

Doctor Osman H. Hull, president of Monterey County Medical Society, reported on discussions in the society for the past few years which have culminated in the society's decision to establish a blood bank and to withdraw from the Red Cross blood service in San Jose. He stated that some funds were available for the purchase of equipment but that additional funds were needed for equipment, supplies and operating capital. He requested a loan from the C.M.A. in the amount of $35,000 and expressed a willingness to confer with the finance or other committees.

ACTION: Voted to refer this request to the finance committee for its study and recommendations.

28. Foreign Travel

Mr. Hunton presented a request from a travel bureau for authority to solicit C.M.A. members for trips to Europe and the Orient using regularly scheduled flights and requiring only 25 participants to qualify for appreciable fare reductions.

ACTION: Voted to approve request, with understanding that C.M.A. does not sponsor such trips, that the C.M.A. mailing list not be released and that all material to be sent to members be screened by staff.

29. Staff Report

Mr. Hassard reported that the House Ways & Means Committee would conduct hearings in Washington on January 20-24 on the King-Anderson bill and that there are reports that the committee may vote on this measure late in February or early March. He announced that this timing would require immediate activity in the Operation Hometown activity.

Adjournment: 5:15 p.m.

CARL E. ANDERSON, M.D., *Chairman*
MATTHEW N. HOSMER, M.D., *Secretary*

In Memoriam

BACON, LYLE C., JR., Los Angeles. Died December 24, 1963, in Glendale, aged 66, of carcinoma. Graduate of the University of Michigan Medical School, Ann Arbor, 1921. Licensed in California in 1924. Doctor Bacon was a member of the Los Angeles County Medical Association.

✣

BARNUM, ALEC STANDING, San Diego. Died January 6, 1964, aged 40. Graduate of New York University College of Medicine, New York, 1947. Licensed in California in 1956. Doctor Barnum was a member of the San Diego County Medical Society.

✣

BLANCHARD, FREDERICK H., West Los Angeles. Died January 31, 1964, in Santa Ana, aged 63. Graduate of Tulane University School of Medicine, New Orleans, Louisiana, 1929. Licensed in California in 1929. Doctor Blanchard was a member of the Los Angeles County Medical Association.

✣

BLUNDEN, ERLE MURRAY, Sacramento. Died January 17, 1964, in an airplane crash, aged 51. Graduate of the College of Medical Evangelists, Loma Linda-Los Angeles, 1937. Licensed in California in 1937. Doctor Blunden was a member of the Sacramento Society for Medical Improvement.

✣

BRIGGS, BARTON E., San Francisco. Died January 29, 1964, in Terra Linda, aged 54. Graduate of Boston University School of Medicine, Massachusetts, 1941. Licensed in California in 1941. Doctor Briggs was a member of the San Francisco Medical Society.

✣

CAMERON, WAYNE FIELD, Upland. Died December 20, 1963, at Laguna, aged 49, of coronary occlusion. Graduate of Northwestern University Medical School, Chicago, Illinois, 1941. Licensed in California in 1950. Doctor Cameron was a member of the San Bernardino County Medical Society.

✣

COVAULT, WILLARD ISAAC, Costa Mesa. Died October 1, 1963, aged 67, of acute myocardial infarction. Graduate of the University of Colorado School of Medicine, Denver, 1931. Licensed in California in 1932. Doctor Covault was a member of the Orange County Medical Association.

COWAN, CHARLES RUSSELL, Garden Grove. Died February 1, 1964, in Garden Grove, aged 39. Graduate of Northwestern University Medical School, Chicago, Illinois, 1947. Licensed in California in 1949. Doctor Cowan was a member of the Orange County Medical Association.

✣

CUNNANE, PHILIP JOHN, Pomona. Died January 20, 1964, in Vista, aged 71, of cerebral thrombosis. Graduate of the College of Physicians and Surgeons, Medical Department, University of Southern California, Los Angeles, 1914. Licensed in California in 1914. Doctor Cunnane was a member of the Los Angeles County Medical Association.

✣

DELAPPE, FRED RUSSELL, Modesto. Died January 22, 1964, in Modesto, aged 89. Graduate of Cooper Medical College, San Francisco, 1897. Licensed in California in 1898. Doctor DeLappe was a retired member of the Stanislaus County Medical Society and the California Medical Association, and an associate member of the American Medical Association.

✣

DREYER, CLIFTON, El Monte. Died November 1, 1963, in El Monte, aged 51, of a coronary. Graduate of the College of Medical Evangelists, Loma Linda-Los Angeles, 1947. Licensed in California in 1947. Doctor Dreyer was a member of the Los Angeles County Medical Association.

✣

ERNSBERGER, GEORGE H., South Laguna. Died January 24, 1964, in South Laguna, aged 71, of a coronary. Graduate of Western Reserve University School of Medicine, Cleveland, Ohio, 1918. Licensed in California in 1920. Doctor Ernsberger was a retired member of the Los Angeles County Medical Association and the California Medical Association, and an associate member of the American Medical Association.

✣

FORD, HARRY G., Richmond. Died January 21, 1964, in Richmond, aged 83. Graduate of the College of Medicine of the University of Southern California, Los Angeles, 1909. Licensed in California in 1909. Doctor Ford was a retired member of the Los Angeles County Medical Association and the California Medical Association, and an associate member of the American Medical Association.

Goldstein, Louis Samuel, Tarzana. Died January 24, 1964, in North Hollywood, aged 58, of a coronary. Graduate of the University of Michigan Medical School, Ann Arbor, 1931. Licensed in California in 1963. Doctor Goldstein was a member of the Los Angeles County Medical Association.

◆

Groat, Milton Jackson, Temple City. Died December 30, 1963, aged 55. Graduate of the University of Nebraska College of Medicine, Omaha, 1932. Licensed in California in 1933. Doctor Groat was a member of the Los Angeles County Medical Association.

◆

Hall, Byron Ellsworth, San Francisco. Died January 17, 1964, in an airplane crash, aged 57. Graduate of the University of Pennsylvania School of Medicine, Philadelphia, 1933. Licensed in California in 1951. Doctor Hall was a member of the San Francisco Medical Society.

◆

Lindstrom, Kurt, Santa Monica. Died January 12, 1964, in Santa Monica, aged 48, of coronary thrombosis. Graduate of the University of Minnesota Medical School, Minneapolis, 1939. Licensed in California in 1942. Doctor Lindstrom was a member of the Los Angeles County Medical Association.

◆

Maher, Edward Joseph, San Luis Obispo. Died January 29, 1964, in San Luis Obispo, aged 55, of coronary thrombosis. Graduate of George Washington University School of Medicine, Washington, D.C., 1935. Licensed in California in 1936. Doctor Maher was a member of the San Luis Obispo County Medical Society.

◆

Nyda, Morton Jerome, San Francisco. Died January 31, 1964, in San Francisco, aged 60, of heart disease. Graduate of the University of Kansas School of Medicine, Lawrence-Kansas City, 1936. Licensed in California in 1937. Doctor Nyda was a member of the San Francisco Medical Society.

◆

Parsons, Jack Francis, Claremont. Died January 3, 1964, in Claremont, aged 51, of carcinoma of the breast. Graduate of Creighton University School of Medicine, Omaha, Nebraska, 1938. Licensed in California in 1947. Doctor Parsons was a member of the Los Angeles County Medical Association.

Read, J. Marion, San Francisco. Died December 15, 1963, aged 74. Graduate of Stanford University School of Medicine, Palo Alto-San Francisco, 1915. Licensed in California in 1915. Doctor Read was a member of the San Francisco Medical Society.

◆

Rosen, Moris S., Hillsborough. Died January 14, 1964, in San Francisco, aged 56, of heart disease. Graduate of the University of California School of Medicine, Berkeley-San Francisco, 1937. Licensed in California in 1937. Doctor Rosen was a member of the San Mateo County Medical Society.

◆

Sellon, George Irving, Fullerton. Died January 28, 1964, in Fullerton, aged 81. Graduate of the University of Nebraska College of Medicine, Omaha, 1912. Licensed in California in 1919. Doctor Sellon was a retired member of the Orange County Medical Association and the California Medical Association, and an associate member of the American Medical Association.

◆

Smyth, Raymond Joseph, Cayucos. Died November 26, 1963, in San Luis Obispo, aged 70, of ruptured aortic aneurysm. Graduate of Loyola University School of Medicine, Illinois, 1929. Licensed in California in 1931. Doctor Smyth was a member of the San Luis Obispo County Medical Society.

◆

Spencer, James A., Watsonville. Died January 21, 1964, aged 58, of cerebral hemorrhage. Graduate of the University of Michigan Medical School, Ann Arbor, 1931. Licensed in California in 1941. Doctor Spencer was a member of the Santa Cruz County Medical Society.

◆

Tower, Paul, Los Angeles. Died January 23, 1964, in Los Angeles, aged 68, of coronary thrombosis. Graduate of New York University College of Medicine, New York, 1919. Licensed in California in 1939. Doctor Tower was a member of the Los Angeles County Medical Association.

◆

Wright, Warner Richard, Los Angeles. Died January 28, 1964, in Los Angeles, aged 57, of carcinoma of the thyroid. Graduate of Howard University College of Medicine, Washington, D.C., 1933. Licensed in California in 1934. Doctor Wright was a member of the Los Angeles County Medical Association.

WEST COAST COUNTIES

Presented cooperatively by West Coast Counties Medical Societies, Stanford University School of Medicine and the Committee on Continuing Medical Education, California Medical Association. A 12-hour course.

HOST: Monterey County Medical Society. **Regional Chairman:** William B. Wenner, M.D., 726 Cass Street, Monterey.

INSTITUTE FEE: $15.00. For additional information contact Continuing Medical Education office, California Medical Association, 693 Sutter Street, San Francisco 94102. All California Medical Association members and their families are cordially invited to attend.

14th ANNUAL regional postgraduate institute

Del Monte Lodge
Pebble Beach
April 10-11, 1964

PROGRAM

FRIDAY, APRIL 10

8:15—**Registration**

9:00 a.m.-12:00 m.—***Morning Session***

Presiding: GORDON O. KINGSLEY, M.D., Salinas

INFECTIOUS DISEASES

Antibiotic Sensitivity Testing
Kenneth L. Vosti, M.D.

CASE PRESENTATIONS:
Unexplained Fever

INTERMISSION

Acute Respiratory Infection
Post Operative Infection
Panel: Lowell A. Rantz, M.D., *Moderator,* Kenneth L. Vosti, M.D., M. Harry Jennison, M.D., Saul Rosenberg, M.D., Robert A. Chase, M.D.

2:30 p.m.-5:30 p.m.—***Afternoon Session***

Presiding: DAVID C. MILLER, M.D., King City

MEDICAL DISEASES OF THE KIDNEY

CASE PRESENTATIONS:
Pyelonephritis

INTERMISSION

Glomerulonephritis
Panel: Norman Kretchmer, M.D., *Moderator,* Kenneth L. Vosti, M.D., Lowell A. Rantz, M.D., Malcolm A. Bagshaw, M.D.

2:30 p.m.-5:30 p.m.—**Concurrent Elective:**

Presiding: DONALD F. TAUGHER, M.D., Monterey

THE DEPRESSED PATIENT

David A. Hamburg, M.D. Class limited to 20.

SATURDAY, APRIL 11

9:00 a.m.-12:00 m.—***Morning Session***

Presiding: JOHN GRATIOT, M.D., Monterey

COMPLEX PROBLEMS IN MALIGNANCY

CASE PRESENTATIONS:
Panel: Malcolm A. Bagshaw, M.D., *Moderator,* Saul Rosenberg, M.D., Robert A. Chase, M.D., Kenneth L. Vosti, M.D.

2:30 p.m.-5:30 p.m.—*Afternoon Session*

Presiding: REX WHITWORTH, M.D., Salinas

PROBLEMS IN ADOLESCENCE

CASE PRESENTATIONS:
Panel: Norman Kretchmer, M.D., *Moderator,* M. Harry Jennison, M.D., David A. Hamburg, M.D., Lowell A. Rantz, M.D.

2:30 p.m.-5:30 p.m.—**Concurrent Elective:**

Presiding: STEVEN THORNGATE, M.D., Monterey

AN AMERICAN DOCTOR'S ROLE IN UNDERDEVELOPED COUNTRIES

Robert A. Chase, M.D.

NORTH COAST COUNTIES

Presented cooperatively by North Coast Counties Medical Societies, Continuing Education in Medicine and Health Sciences, University of California School of Medicine, Los Angeles and the Committee on Continuing Medical Education, California Medical Association. A 12-hour course.

HOST: Mendocino-Lake County Medical Society. **Regional Chairman:** Patrick R. Allanson, M.D., 728 South State Street, Ukiah.

INSTITUTE FEE: $15.00. For additional information contact Continuing Medical Education office, California Medical Association, 693 Sutter Street, San Francisco 94102. All California Medical Association members and their families are cordially invited to attend.

14th ANNUAL regional postgraduate institute

BROOKTRAILS Willits

April 23-24, 1964

THE KIDNEY: ANATOMY, PHYSIOLOGY AND DISEASE

THURSDAY, APRIL 23

8:15—**Registration**

Morning Session

Presiding: Alvin W. Folkenberg, M.D., Ukiah

9:00-9:20—**Gross Anatomy of the Urogenital Tract and Its Blood Supply**—Joseph J. Kaufman, M.D.

9:20-9:40—**Microscopic Anatomy of the Kidney**—Harrison Latta, M.D.

9:40-10:00—**Elements of Renal Function: Renal Blood Flow, Filtration Rate, Reabsorption, and Secretion**—Morton H. Maxwell, M.D.

10:00-10:20—**Renal Regulation of Nonprotein Nitrogens**—Ralph Goldman, M.D.

10:20-10:40—Intermission

10:40-11:00—**Clinical Examination of the Urinary Sediment**—Ralph Goldman, M.D.

11:00-11:20—**Renal Regulation of Sodium and Potassium**—Milton E. Rubini, M.D.

11:20-11:40—**Renal Regulation of Water**—Stanley Franklin, M.D.

11:40-12:15—**Renal Regulation of Acid Base Balance**—Harvey C. Gonick, M.D.

Afternoon Session

Presiding: Thomas A. Nicholson, M.D., Ukiah

2:00-2:30—**Renal Radiography**—Joseph J. Kaufman, M.D.

2:30-3:00—**Renal Biopsy**—Harrison Latta, M.D.

3:00-3:45—**Clinical Tests of Renal Function**—*Panel Discussion*—Ralph Goldman, M.D., Joseph J. Kaufman, M.D., Morton H. Maxwell, M.D.

3:45-4:00—Intermission

4:00-4:45—**Simultaneous Work Shops:** (you may go to one of your choice):

A. **Potassium**—Milton E. Rubini, M.D.
B. **Sodium**—Stanley Franklin, M.D.
C. **Acid Base Metabolism**—Harvey C. Gonick, M.D.
D. **The Patient Interview**—Arthur Clinco, M.D.

FRIDAY, APRIL 24

Morning Session

Presiding: J. Roy Wittwer, M.D., Eureka

9:00-9:30—**Hypo- and Hypernatremia** — Harvey C. Gonick, M.D.

9:30-9:50—**Hypo- and Hypercalcemia** — Milton E. Rubini, M.D.

9:50-10:20—**Chronic Renal Failure** — Ralph Goldman, M.D.

10:20-10:35—Intermission

10:35-11:00—**Acute Renal Failure**—Morton H. Maxwell, M.D.

11:00-12:00—**Simultaneous Work Shops:** (you may go to one of your choice):

A. **Potassium**—Milton E. Rubini, M.D.
B. **Sodium**—Stanley Franklin, M.D.
C. **Acid Base Metabolism**—Harvey C. Gonick, M.D.

Afternoon Session

Presiding: Richard C. Barnett, M.D., Sebastopol

2:00-2:30—**Edematous States: Actions and Uses of Diuretics**—Stanley Franklin, M.D.

2:30-3:00—**Renovascular Hypertension**—Joseph J. Kaufman, M.D.

3:00-3:20—**Present Status of Chronic Dialysis**—Milton E. Rubini, M.D.

3:20-3:40—Intermission

3:40-4:00—**Present Status of Kidney Transplantation**—Ralph Goldman, M.D.

4:00-4:45—**Kidney Stones**—*Panel Discussion*—Harvey C. Gonick, M.D., Joseph J. Kaufman, M.D., Morton H. Maxwell, M.D.

4:00-4:45—Concurrent Elective—**The Patient Interview**—Arthur Clinco, M.D.

Continuing Consent to Treatment

INFORMATIONAL SUPPLEMENT

The physician confronted with a minor needing prompt medical care is often faced with a dilemma. Where the parents or guardian may be close at hand, this can often be resolved in a matter of minutes or hours. However, not infrequently, the whereabouts of those legally able to give consent for treatment is unknown, or due to circumstances they cannot be contacted. The passage of many hours before institution of definitive treatment may be extremely detrimental to the patient, and yet the physician and/or the hospital are reluctant to proceed because of medical-legal implications. Many industries employ a significant number of minors, and the availability of a pre-signed "Consent for Treatment," which would apply only to occupationally produced disease or injury, would obviate delay and definitely be in the best interest of the patient and all concerned. The following consent form that has been produced, carries the approval of the California Medical Association, as well as the approval of the Board of Trustees of the California Hospital Association. It is suggested that those industries interested in using this form could have it completed in duplicate, attaching one copy to the permanent personnel record, and placing the other copy in the medical dispensary file, or at some point where it would be easily available in the event of need.

Committee on Occupational Health
California Medical Association

CONTINUING CONSENT TO TREATMENT

We, the undersigned, parents of________________________________, Minor, do hereby consent to any x-ray examination, anesthetic, medical or surgical diagnosis or treatment and hospital service that may be rendered to said Minor, *in the event said Minor is injured while employed at*____, *by the Employer's designated physician and surgeon,* whether such diagnosis or treatment is rendered at the office of said physician or at a licensed hospital. We further authorize said physician to exercise his discretion in authorizing the disposal of any severed tissue or member.

It is understood that this consent is given in advance of any specific diagnosis or treatment being required, but is given to encourage the employer and said physician to exercise their best judgment as to the requirements of such diagnosis and treatment.

This consent shall remain effective *while said Minor is employed by*____________________ ______________________, *unless sooner revoked in writing delivered to the employer.*

Dated:________________________

____
Father

____
Mother

____
Legal Guardian

____
Witness

WOMAN'S AUXILIARY
TO THE CALIFORNIA MEDICAL ASSOCIATION

International Health Activities

The International Health Activities Committee is one of the newest standing committees authorized by a Bylaw amendment adopted by the Woman's Auxiliary to the American Medical Association in 1962. The concept of the International Health Activities Committee adds a new dimension to service in the Woman's Auxiliary. The program is of service to a world-wide medical community.

When a county medical auxiliary endorses the IHA program it appoints a chairman who sets up the program of collecting, shipping and preparing usable discards from physicians' offices. There is a continual and urgent need for drug samples (leftovers from the doctor-husbands and of all the medical community), used medical textbooks and magazines (regardless of age), medical supplies and instruments, bandage material, x-ray equipment, office furniture, hospital furniture, etc.

The expense of mailing or shipping of materials must be borne by the Auxiliary. Some Auxiliary units have contacted moving companies, who have shipped the materials gratis.

The materials can be packaged and mailed or shipped to one of the organizations which gets these items to the places in the world where they are most needed. Because of its accessibility to our Auxiliary in California, we are working primarily with Direct Relief Foundation, 27 East Canon Perdido St., Santa Barbara. Or a County Auxiliary may have some other non-profit organization it wishes to work with. One of the pioneer groups in this country is World Medical Relief, Inc., 479 W. Columbus Street., Detroit, Michigan. Another reputable group in California is The Medical Relief of Haiti, Inc., 1348 Market St., Redding, Calif.

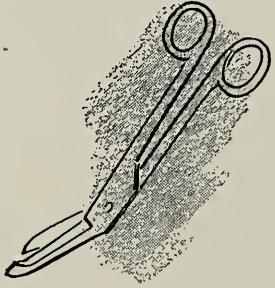
The above mentioned groups meet all legal requirements for handling drugs. They are regularly examined by FDA inspectors. Medications are meticulously checked as to dates and all deteriorated and recalled medications are discarded in a carefully prescribed manner.

Storage space is available at each of these foundations, and volunteers headed by pharmacists are ready to process all contributions, which will be shipped overseas or wherever there is a medical need. All requests for aid are thoroughly investigated.

At the International Health Activities fall conference in Chicago (held in connection with the Woman's Auxiliary to AMA) Mr. James Forsyth of Direct Relief Foundation spoke of "discharging our moral obligations before God" by helping others. He said requests for medicines arrive daily from hospitals and clinics in remote areas of the free world. In mission hospitals of all faiths physicians work under primitive conditions. "No government agency here or abroad," he said, is ever involved in this principle of "Direct Relief." Relief is direct to the one in need, wherever he is, whatever his color or his creed. No government intervenes, it all goes free of any charge."

All drug contributions must be left in their original bottles or little containers. Then they must be placed in boxes that will be sealed and marked with the name of the Auxiliary doing the collecting.

Mrs. Joseph L. Pace
1521 University Avenue
San Jose, California



INFORMATION

Health Care of the Aged

The following testimony on health care of the aged as provided in the "Hospital Insurance Act of 1963" was given by Clifton H. Linville, President of the California Hospital Association, before the Committee on Ways and Means, U.S. House of Representatives.

MY NAME is Clifton H. Linville. I am the administrator of Fresno Community Hospital, a 299-bed acute general hospital located in the Central San Joaquin Valley of California. Our hospital serves not only a growing industrial area but also one of the most important agricultural areas in our state.

I am president of the California Hospital Association, composed of 501 institutions, aggregating 65,000 hospital beds. Our organization includes federal, state, county, district, municipal, church, non-profit, non-sectarian, and privately owned hospitals. The membership of the California Hospital Association comprises almost 10 per cent of the hospitals of the United States. On behalf of the Association, I wish to express our appreciation for the opportunity to express our view on implications of a compulsory hospital insurance program to provide and finance health care of our aged population.

The California Hospital Association is somewhat unique among organizations of its type. It is concerned not only with the quality of hospital care but also careful attention has been given to the economic and governmental mechanisms for providing this care to the *entire* population.

As a relatively young but rapidly growing state, California always shows a willingness to meet the challenge of change with social experiment and development. On the other hand, this very experience with change has given us a certain skepticism about political panaceas.

We are willing to accept local, state or federal governments as partners in solving problems which cannot be solved without such government participation. But, also, we have a deep concern for the intervention of big government into areas that can be handled best by local and private initiative.

In rejecting the fundamental premises of compulsory health insurance for the aged under the proposed King-Anderson approach, the membership of the California Hospital Association bases its decision on careful thought and study of similar proposals made in California for more than 20 years. The California Hospital Association has consistently opposed such proposals as not being in the best interests of the community and of the patients it serves in its member hospitals.

The Association membership is not ignoring the fact that there still are some gaps in the mechanisms for paying for or financing health care for all the population, but it is with deep conviction, based on years of experience and study, that we have concluded that these gaps are being closed rapidly and that the jeopardy to the high standards of medical care inherent in the King-Anderson approach is far too risky.

One of the great accomplishments of the twentieth century has been the rapid development of the hospital as the center for health service in the community. During this period of rapid change the voluntary hospital system of America has shown an amazing ability to adjust and grow with the changing needs and demands made on it. This progress has been possible because the system has not been fettered by the inflexibility of big government. It has been responsive to local needs and patterns of care and has developed a broad spectrum of solutions to problems of both quality of care and the economics of furnishing the care. Each community in its own way has been held accountable by the people it serves and correspondingly has attempted to provide the best possible care at the lowest possible cost.

In this regard there has developed a strong triangular partnership with medicine and voluntary health insurance programs. Hospitals themselves were responsible for the creation of Blue Cross, one of the most amazing and successful social developments ever known—accomplished on a voluntary basis.

On the other hand, our hospitals have watched with increasing concern as other countries have turned to central government to solve these same problems. Of particular concern have been recent developments in Canada, where the hospital prepayment system is being taken over by government. The very evils that we foresee under King-Anderson already are developing in Canada. The government is establishing limitations on its reimbursement formulas, delaying its payments, and exercising indirect but insidious negative controls over hospital management, thereby over the quality of care rendered.

We have learned from experience with existing government programs, such as Medicare for servicemen's dependents, Workmen's Compensation Insurance, Crippled Children's Assistance, and others, that there is a constant effort by government to use the control over the source of payment to limit the medical judgment of the provider of the service. Often because of inflexibility of reimbursement formulas, arbitrary exclusions, lag in updating the payment schedule, these government programs are subsidized by our private patients. The same evils are inherent in King-Anderson and cover a much larger portion of our source of payment. Further-

TABLE A

Hospital* Comparisons	Beds	V.A. Bed Ratio†	Admissions	Census	Expenses	Patient Days	Cost per Admission	Admissions per Bed
Fresno Community Hospital	299	1,088	12,192	195	$3,664,000	71,175	$300	40
General Hospital of Fresno County	619	953	10,586	478	4,820,000	174,470	455	17
St. Agnes Hospital	216	725	7,952	165	2,656,000	60,225	334	37
Sierra Hospital	58	242	2,678	34	724,000	12,410	270	46
Valley Children's Hospital	42	252	2,785	32	732,000	11,680	262	66
Veterans Administration Hospital	250	......	2,892	229	2,501,000	83,585	864	11
Total beds other than V.A.	1,234	3,260						

2,026 additional beds if prevailing practice of Veterans Administration followed—@ $25,000 per bed = $50,650,000.

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*General, short term type.

†Number of beds required by each hospital to achieve same ratio as V.A.—beds to admissions.
Source: JAHA, 8-1-63.

TABLE B

Hospital Comparisons	Cost per Admission
Phoenix, Arizona	
Veterans Administration	$ 962
Good Samaritan Hospital	290
Fayetteville, Arkansas	
Veterans Administration	684
Washington General	158
Fayetteville City Hospital	182
Long Beach, California	
Veterans Administration	1,257
Memorial Hospital of Long Beach	341
Wilmington, Delaware	
Veterans Administration	1,120
Memorial Hospital	392
Washington, D.C.	
Veterans Administration	815
Walter Reed General Hospital	1,355
Doctors Hospital	206
Sibley Memorial	269
Portland, Oregon	
Veterans Administration	935
Providence Hospital	293
Physicians & Surgeons	270
Buffalo, New York	
Veterans Administration	1,531
Sisters of Charity Hospital	313
Millard Fillmore Hospital	371

U.S.A.—1962

	Total Admissions	Total Expense	Expense per Admission
Veterans Hospitals	511,333	$ 561,643,000	$1,098
Short-term General	24,307,271	6,840,984,000	281

more, once the principle is established it will be extended to an ever-increasing part of the population just as has the basic social security program.

We do not have to go to Canada, or even analyze in detail the above programs when a casual comparative review of some of the government hospitals in the United States provides a striking reminder of the importance of local control with total accountability and responsibility at the local level. Such a review discloses that accountability between the provider of medical and hospital service and the one for whom this service is provided is lost in the maze of big government bureaucracy—and the concern for the "least possible cost" becomes so remote that there can be no direct economic control.

We have only praise for the quality and high standard of patient care in the Veterans Administration but comparison of these hospitals with other hospitals, on a regional and national basis—as shown on Tables A and B—points up the above.

The citizens of California long have recognized their responsibility for furnishing health care for all of its citizens, regardless of age. We not only have an outstanding voluntary hospital system but also we are proud of a county hospital system that cares for our indigents on a high quality basis—a basis that compares favorably with care provided by private hospitals.

The county hospital system of California, almost on a no-questions-asked basis, has been utilized less each year since 1954-55. The statistics on Table C indicate that no Californian in acute need of medical care would be subject to any delay or difficulty in obtaining same.

These same statistics could also lend support to the position that more and more of the people of California are adequately providing for their own medical and hospital needs.

We do recognize that there has been a gap for the near or medically indigent that has not been fully resolved. Therefore, we welcome as sound and effective the solutions available under Kerr-Mills. We believe this approach gives local government the opportunity to resolve the problem in a way adapted to local needs without the danger of control or even destruction of the voluntary hospital system inherent in compulsory government health insurance. Kerr-Mills is directed at the true area of government concern and responsibility—the area of indigency.

To reiterate—there are unique qualities in each community of America—with unique problems that can best be solved by *all* the individuals concerned with these problems—and on a face-to-face basis—so that the human quality and man's compassionate regard for man can enter into the problem's solution.

TABLE C

Patient Days Reported and Patient Days Per 1,000 Population County Hospitals, State of California, 1954-1962

		Patient Days			
		All Facilities*		Acute Short Term	
Fiscal Year	Estimated Population	Number	Per 1,000	Number	Per 1,000
1954-55	13,004,000	8,331,400	641	2,708,400	208
1955-56	15,581,000	8,109,500	597	2,690,400	198
1956-57	14,177,000	8,064,600	569	2,841,500	200
1957-58	14,741,000	7,527,300	511	2,823,700	192
1958-59	15,288,000	7,658,100	501	2,795,100	183
1959-60	15,863,000	7,385,000	466	2,798,100	176
1960-61	16,453,000	7,424,800	451	2,739,700	167
1961-62	17,094,000	7,226,600	423	2,763,000	162

*Includes short-term acute, psychiatric, tuberculosis, long-term (chronic and convalescent) and domiciliary.

Source: Annual Report of County Hospitals, Cal. D.P.H., 1-1-63. Population estimates as of July 1: State Department of Finance.

It is true that we have been impatient with the progress to date, but our impatience has been with the failure fully to implement the program at the state level and not with the basic approach itself. It took us more than 25 years to bring Blue Cross to its present success, so perhaps we have expected too much in four years from Kerr-Mills, and only one year and eleven months in California.

Our brief experience with Kerr-Mills convinces us it can be an effective mechanism to close one of the last remaining gaps in the financing of health care for all Americans. And, because it is responsive to local control, it will be self-limiting. Also, we believe that the continued agitation for the King-Anderson approach has caused California's state administration and legislature to procrastinate on effective implementation of Kerr-Mills.

In this regard, I find it difficult to reconcile the position of one of the proponents of H.R. 3920 and its testimony in the California state legislature.

During the 1963 California session, legislation was introduced (and finally passed) which would permit the insurance companies to pool their risks in offering hospital and medical insurance to those over 65. This bill was violently opposed by the AFL-CIO—which would cause one to question their sincerity in actually being concerned about the health needs of the aged. It was with considerable pride that I watched the committee tally its vote—the swing vote—a Democrat, George Zenovich of Fresno—voted for the best interests of the aged—and today a policy known as "Western 65" is being offered by 40 companies in California.

If the Congress acts clearly and decisively now, rejecting compulsory mechanisms emphatically while reaffirming the principles of Kerr-Mills to be the national policy, we are sure that California will solve the problems of health care of the aged with the tools at hand and in the tradition of the voluntary health system of which we are justly proud.

The Challenge of Excellence

AMERICAN ASSOCIATION OF MEDICAL ASSISTANTS CERTIFICATION PROGRAM

MARY KINN*

EIGHT YEARS AGO, in October 1955, a movement began which was destined to have an ever increasing influence on the quality of care in physicians' offices throughout the United States. On that date, 77 medical assistants, from 15 states, met in Kansas City, Kansas, for the discussion of an idea. They were joined by a few doctors, as well as representatives of the American Medical Association and a few State medical societies. These medical assistants were interested in their own need for professional improvement, and the sole topic of discussion at this meeting was the question of whether or not a national organization of medical assistants was desired or feasible.

Within the medical profession the 1955 meeting was followed by enthusiastic approval by some, and eyebrow-lifting of others. Those who approved were aware of the need for an aide specifically trained to work in a physician's office. They affirmed that certain qualifications should be met by the medical assistant just as they are expected from the nurse, the medical technologist or the x-ray technician, not only to give optimal care to the patient but also to enable the doctor to delegate certain duties with complete confidence and without fear of adverse medical or legal consequences.

Those who were less enthusiastic wondered just what these girls were up to. Some prophesied imminent demands for wage and hour control and others feared that their present assistant who worked satisfactorily with a limited knowledge would not be permitted to continue unless she met certain qualifications.

However, the medical profession assumed a watch-and-wait attitude, and one year later, in Milwaukee, Wisconsin, another meeting was called, to adopt a constitution and bylaws, and elect a slate of officers for the American Association of Medical Assistants. Two hundred and fifty medical assistants from 16 states attended this meeting.

With the passing of each year since this time, the struggle for existence by the AAMA has eased with regard to acceptance within the medical profession; but the fact of acceptance has carried with it the responsibility of justifying its existence. Since the only real justification for such an organization, reduced to its essentials, is improvement in the medical assistant's performance on the job, "edu-

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*Chairman of the AAMA Certification Committee.

Reprinted from The Bulletin of the Orange County Medical Association, September and October 1963.

cation" became the byword for the national association and all its component chapters.

Each chapter had its Education Chairman, who attempted to work up special programs, of both a formal and informal nature, in which the members could participate. Speakers at the monthly chapter meetings were chosen with education of the member in mind.

The next step was development of formal classroom studies. This was pursued through the channels of adult education classes in junior colleges or their equivalent, and some of the chapters held workshops and seminars. All of these activities were worthwhile, and certainly of benefit to those who participated; however, there was still no organized effort to establish standards of achievement or any specific goal toward which the individual medical assistant could aspire.

Many of us felt the lack of direction in our attempts at self-education. We considered, too, the growing realm of responsibility of the medical assistant, and her deficiency in professional recognition. The members of AAMA in all parts of the country were clamoring for knowledge, and in 1959, only three years after the official birth of the organization, the AAMA House of Delegates approved the appointment of a special committee to develop a certification program.

The year 1963 marks another milestone for medical assistants. In October of this year, for the first time, they will have an opportunity to take an examination qualifying them for a certificate in either administrative or clinical medical assisting.

Although I was appointed Chairman of this committee, I felt I had no particular qualifications for the job except the ability to dream and a willingness to work. Consequently, I looked for some expert guidance, and this came from Professor George Wagoner, Head of the School of Business Administration at the University of Tennessee, who at that time was Dean of the Certifying Institute of the National Secretaries Association. Dean Wagoner deserves more credit than I for the pattern which has developed, for he figuratively led me by the hand during the committee's first couple of years.

The first duty of the Certification Committee was to set forth its purposes. After much discussion and correspondence, the following goals of the program were established:

1. To help physicians identify those qualified as top-level office assistants.

2. To establish professional standards and goals for medical assistants.

3. To assist schools and colleges in developing training programs for medical assistants.

4. To prepare and administer an annual examination.

5. To certify those who successfully complete the examination.

One responsibility which has befallen the committee, and one which we had not anticipated, has been a public relations job with the medical assistants themselves. Although many members have been enthusiastic from the beginning, there have been others who for one reason or another have voiced objection. Some jumped to the immediate conclusion that certification was to be required for membership in the AAMA. Others assumed that it would be comparable to a licensing procedure, and there were, of course, a few who would have opposed any new idea.

We have at all times stressed that this is an opportunity for the medical assistant to *voluntarily* upgrade her position. It is not a requirement of membership in the association; it is not a requirement for holding or obtaining a job as a medical assistant. As an additional comforting thought to the employed medical assistant, the examination is not an attempt to evaluate her performance on the present job. We do feel, however, that anyone who does the necessary preliminary study, and attempts to pass the examination, will be a better employee regardless of whether or not she receives her certificate.

Because of the diversified nature of the medical assistant's work, we found it necessary to present certification in two categories—medical assistant, administrative, and medical assistant, clinical. Any individual, however, has the opportunity to become certified in both categories if she so desires.

The examination is divided into seven sections. All candidates for certification must pass the first three sections of the examination, which cover:

1. Medical terminology, anatomy and physiology.

2. Personal adjustment and human relations; medical ethics and etiquette.

3. Medical law and economics.

For the administrative certificate, the candidate must also pass sections 4 and 5 covering:

4. Office skills and procedures; accounting, credits and collections.

5. Written and oral communications; records, medical and non-medical.

For the clinical certificate, the candidate must pass, in addition to the first three sections, sections 6 and 7 covering:

6. Examination room techniques, sterilization procedures, care of equipment.

7. Laboratory orientation.

Every candidate must take all five of the required sections on the first attempt. If at least two sections are passed, she has the privilege of repeating, in subsequent years, only the sections failed, until all the required sections have been passed.

Most of the examination consists of multiple choice questions. Section 4, however, does include a practical test in typing, transcribing, and editing skills. The examination is given on two consecutive days, and requires about eight hours writing time. This year it is being given in October at the time of our national convention; in future years it will be given on the last Friday and Saturday of June.

There are certain minimum education and experience requirements which must be met in order to be eligible for certification testing. The applicant must:

1. Be at least 21 years of age at the time of application.

2. Be a high school graduate.

3. Have a minimum total of three years experience in the office of a doctor of medicine, hospital or clinic.

4. Have at least 12 months continuous experience with one doctor, hospital, or clinic.

5. Produce a brief letter of reference from her present employer, which should include opinions as to the applicant's readiness for such testing, work impressions and general capabilities.

As is true of most good things, there is a financial aspect to the program. It has been our thinking all along that it should be self-supporting. Naturally, some investment had to be made before any income could be realized, and in May, 1962, the American Medical Association contributed $1,000 to help us get started. In October, 1962, the pharmaceutical firm of Merck, Sharp & Dohme gave us a grant of $5,000 for the fiscal year 1962-63. Without this financial help, the committee would have been seriously handicapped. There is a fee for taking the examination; an application fee of $5.00 is levied, which is not refundable unless the applicant is found ineligible. The fee for the examination is $7.00 per section.

This year we have arranged three examination centers—in Miami Beach, Florida, the convention site; at the University of Kansas, in Lawrence; and at Fullerton Junior College, in Orange County, California. We have accepted between 150 and 160 applicants, 54 of whom will take the examination in California. From a local standpoint, I am proud to say that 10 of these 54 are employed by doctors in Orange County. We hope to increase the number of test centers each year, and at the present time tentatively plan centers for June, 1964, in the states of New York, Georgia, Oklahoma, Wisconsin, and California.

The original special committee, appointed in 1959, and comprised of six AAMA members, climaxed its three-year term in October, 1962, by developing and administering a trial examination in Detroit, Michigan. Twenty-two medical assistants, all of whom had good education and work experience background, participated in this examination, without prior preparation, and their test papers were then analyzed at the University of Tennessee, under the direction, again, of George Wagoner. This committee also prepared a detailed study outline and list of reference books, which has been furnished upon request to anyone who desired it for the past year. To date, over 2,000 copies of this study outline have been distributed.

In October, 1962, this original committee was replaced by a Certifying Board, which had been established by resolution of the 1961 House of Delegates. The Certifying Board is comprised of four physicians, four educators, and four medical assistants, plus the President and President-Elect of AAMA. All of the people on the Board serve on a voluntary basis, and we are very fortunate in having well-qualified people interested in our program. This year we hope to find a member of the legal profession who is interested, as well as charitable with his time.

The AAMA today, less than eight years after the first organization meeting, is a far cry from what it was when I served as its President in 1957-58. At the beginning of that year we had, as I recall, 17 member states; the association now serves 38 of the 50 states, and this year will add six more states, including Hawaii, to its roster. Membership in the association presently is about 11,000, with California in the lead with over 2,000 members. It has an office in Chicago, with an executive secretary and three additional employees. It is an organization recognized and respected by the American Medical Association. Each year at our annual convention, the President of the American Medical Association honors us by delivering the banquet address.

In spite of all the hours of work, the problems, and the occasional discouragements, attempting to set up a professional certification program for this dedicated group of women has been a most challenging project for me as chairman. My hope, now, is that what has been an excellent challenge to me will be viewed by medical assistants, both present and future, as the challenge of excellence.

Provisions of Group Health Insurance Policies Issued in 1962, and Recent Trends in Coverage

A Report of the Bureau of Research and Planning, California Medical Association

A STUDY of the provisions of over 2,500 group insurance policies issued in 1962 by 44 companies which wrote 75 per cent of total group health premiums during the previous year reveals significant information regarding the scope of improved benefit coverage. The following are some of the highlights of the sample survey which included nearly one million persons (284,000 employees and 711,000 dependents):

. . . . 96 per cent of all workers covered in 1962 had the cost of health insurance protection paid entirely or partly by the employer. For 41 per cent, the entire cost was paid by the employer; for 55 per cent, the costs were shared.

. . . . Almost 64 per cent of the employees received coverage for hospital, surgical, and regular medical expenses.

. . . . Over 60 per cent of the workers protected by all group insurance plans were covered for major medical expenses.

. . . . Almost 97 per cent of the workers received coverage for nervous and mental disorders under major medical plans.

. . . . 60 per cent of the workers covered under basic policies were covered for hospital stays of 70 days or more.

. . . . 94 per cent of the employees under comprehensive major medical coverage had plans providing benefits for 80 per cent of total expenses incurred; 77 per cent had similar co-insurance under supplementary-type plans.

. . . . 80 per cent of the workers have the right to retain health insurance protection upon retirement, either by conversion to an individual policy or by continuation under a group policy.

. . . . 36 per cent of the employees had short-term disability income protection; almost half were covered by 13-week plans, one-third were covered by 26-week plans, and one-fifth by 52-week plans.

. . . . Hospital daily room-and-board benefits in California averaged $20.

Analysis of a sample of new policies written between April 1, 1962 and September 1, 1962 by 44 insurance companies provides information on types of health care protection currently being provided to workers and their dependents throughout the United States, and enables some basis for comparison with coverage written in 1960. The sample of 2,531 cases, representing nearly one million persons, provides additional information on improvements in various types of benefit coverage over the three-year period.

The highlights in the accompanying box present some of the salient data of the Health Insurance Institute study. The survey also reveals that between 1960 and 1962:

1. The number of cases with average daily hospital room-and-board benefits under group basic coverage of $16.00 or more increased 68.4 per cent nationally; benefits of $20.00 or more increased 107.9 per cent. Over this period of time, average daily benefits increased from $17.00 to $20.00 in California.

2. Cases providing coverage against nervous and mental disorders under major medical policies increased 2.2 per cent; in 1962, 24 out of 25 policies provided such coverage.

3. Thirty-one per cent more employers paid the full cost of health insurance protection for their employees.

4. The increase in the number of new group policies affording the right to continue coverage upon retirement increased 22.8 per cent.

The significance of the data in this *Report* lies in the fact that three-fourths (76.1 per cent) of the policies were written for the first time, with additions to existing cases representing less than one-fourth of the cases (23.9 per cent).

The study reveals further that the most common benefit for in-hospital visits was $5.00; it was the same amount for in-office and in-home visits where such benefits were provided under group basic coverage. It should be noted, however, that the percentage of employees covered for home and office benefits varied in direct proportion to the size of the group; 2.8 per cent of the employees in groups of less than 25 were covered by in-office and in-home visits, whereas 12.9 per cent of the employees of groups of 500 or more were covered by such benefits.

Among other survey findings: the most common benefit for diagnostic x-ray and laboratory service under basic coverage was $50; nearly 74 per cent of the employees had maternity benefits available for themselves or their spouses; and the average maximum surgical benefit in California was $375.

693 Sutter Street, San Francisco 94102.

Source: Health Insurance Institute—Group Health Insurance Policies Issued in 1962. The Institute, New York, 1963.

NEWS & NOTES

NATIONAL • STATE • COUNTY

ALAMEDA

Dr. Joseph F. Sadusk, Jr., has been appointed Director of the Bureau of Medicine of the Food and Drug Administration, effective April 1, 1964.

Dr. Sadusk, formerly of Oakland, will be on indefinite leave of absence from his present position with The George Washington University as chairman of the Department of Preventive Medicine and Community Health, and Director of the University Clinics. He will continue his affiliation with the University's Medical School as a professor and will teach on a limited basis.

When he practiced in California, Dr. Sadusk was active in Alameda-Contra Costa Medical Association and California Medical Association work, including the chairmanship of the CMA Medical Review and Advisory Board.

LOS ANGELES

A corporate communion for Episcopalians attending the California Medical Association meeting in Los Angeles has been scheduled for 7:30 a.m., Tuesday, March 24, at St. Paul's Cathedral. The cathedral is located at 615 South Figueroa, just three blocks west of the Biltmore Hotel where the CMA meeting is being held.

SAN DIEGO

Dr. A. Baird Hastings of the Scripps Clinic and Research Foundation, La Jolla, will receive The American College of Physicians Award for distinguished contributions in science as related to medicine at ceremonies conducted by the college in Atlantic City, April 6-10.

* * *

District VIII of the **American College of Obstetrics and Gynecology** will hold a Conference on Obstetrics and Gynecology and **Neonatal Nursing** at El Cortez Hotel in San Diego, September 25, 26, 27, 1964. This conference is for the purpose of continuing education for nurses who are working at or are interested in obstetrical, gynecological and nursing of the newborn. Nurses will participate actively both in planning and presentation of subject material.

SANTA BARBARA

The Santa Barbara Medical Clinic's second annual program in continuing medical education will be a **symposium on current therapy** to be held at the Santa Barbara Biltmore on May 1 and 2, 1964. No registration fee is charged. The guest speakers are: Dr. Allan M. Butler, professor of pediatrics, emeritus, Harvard Medical School; D. O. Currier McEwen, professor of medicine, New York University School of Medicine; and Dr. William H. Snyder, Jr., clinical professor of surgery, University of Southern California School of Medicine.

Further information may be obtained from Dr. Dean A. Smith, Santa Barbara Medical Clinic, 1421 State Street, Santa Barbara.

SANTA CLARA

A new system of obtaining **eyes for corneal transplants** has been instituted at the Stanford Medical Center. Called "Eye Alert," it will revolutionize present eye banks, according to Dr. Frank C. Winter, acting head of the Division of Ophthalmology, by making it possible to obtain eyes where and when they are needed.

It works this way: The admitting office, nursing office and emergency room at the Center are alerted to notify the ophthalmologist on duty when a patient dies. If the eyes are in good condition, the ophthalmologist immediately gets in touch with the patient's family and secures permission to use the eyes in a transplant operation. Advantages under this system are that fresher corneas are available, a patient does not have to wait two or three weeks as heretofore for a transplant, and the procedure is much less expensive.

GENERAL

The first meeting of the Interprofessional Advisory Council of the California **Joint Study of Student Health Problems and School Performance** is to be held Monday evening, March 30, at the St. Francis Hotel, San Francisco. The purpose of the meeting which begins at 6:30, is to review plans that have been made thus far for a broad study of student health and related problems in elementary and secondary schools throughout California.

Expected to be the largest study of this nature ever conducted in the schools of this country, it is being carried forward with B. Otis Cobb, M.D., as director and Leonard J. Dolton, Ed.D., as associate director. It is supported by a grant from the Dairy Council of California.

EDUCATION NOTICES

MEETINGS AND COURSES

COMMITTEE ON CONTINUING MEDICAL EDUCATION

THIS BULLETIN of the dates of continuing education programs and the meetings of various medical organizations in California is supplied by the Committee on Continuing Medical Education of the California Medical Association. In order that they may be listed here, please send communications relating to your future meetings or postgraduate courses to Committee on Continuing Medical Education, California Medical Association, 693 Sutter Street, San Francisco, California 94102.

MEDICAL MEETINGS

MARCH MEETINGS

Mar. 21—**California Society of Anesthesiologists.** Annual Meeting, House of Delegates. Biltmore Hotel, Los Angeles. Saturday. 9:00 a.m. No fee. Contact: Robert E. Ploss, M.D., secretary-treasurer, 39 North San Mateo Drive, San Mateo.

Mar. 21—**California Chapter, American College of Chest Physicians.** Clinical Program. Biltmore Hotel, Los Angeles. Saturday—all day. No fee. Contact: Joseph Boyle, M.D., secretary, 1136 West 6th Street, Los Angeles 90017.

March 22-25—**CALIFORNIA MEDICAL ASSOCIATION 93rd Annual Session.** Scientific theme: "Immunology." Biltmore Hotel, Los Angeles. Sunday-Wednesday. Contact: Mr. John Hunton, executive secretary, 693 Sutter Street, San Francisco 94102.

March 26-27—**California Conference of Local Health Officers.** Semi-annual meeting. Edgewater Marina Hotel, Long Beach. 9:00 a.m. Contact: A. W. Barnes, Division of Community Health Services, California State Dept. of Public Health, 2151 Berkeley Way, Berkeley 94704.

March 31-April 1—**Southwestern Pediatric Society.** Annual lecture series. Statler Hotel, Los Angeles. Contact: Jack W. Bills, M.D., 14914 Sherman Way, Van Nuys, California.

APRIL MEETINGS

April 4-5—**American Psychosomatic Society.** Sheraton-Palace Hotel, San Francisco. Contact: Joan K. Erpf, executive assistant, 265 Nassau Road, Roosevelt, New York.

April 5-6—**American Otological Society.** St. Francis Hotel, San Francisco. Contact: James A. Moore, M. D., secretary-treasurer, 525 E. 68th St., New York 21.

April 7-8—**American Broncho-Esophagological Association.** St. Francis Hotel, San Francisco. Contact: Daniel C. Baker, Jr., M.D., executive secretary, 903 Park Ave., New York 21.

April 7-9—**American Laryngological, Rhinological and Otological Society.** St. Francis Hotel, San Francisco. Contact: Victor R. Alfaro, M.D., 917 - 20th St., N.W., Washington 6, D. C.

April 8—**Los Angeles Radiological Society.** Contact: Bernard J. O'Loughlin, M.D., Dept. of Radiology, UCLA Center for Health Sciences, Los Angeles 90024.

April 9-11—**Tuberculosis and Health Association of California.** Annual Meeting (held in conjunction with California Thoracic Society Medical Sessions). Statler-Hilton, Los Angeles. Thursday-Saturday. Contact: Mrs. Lois L. Clark, administrative assistant, 130 Hayes Street, San Francisco.

April 10-11—**Children's Hospital of the East Bay.** Twelfth Annual Clifford D. Sweet Lecture combined with a two-day postgraduate seminar. Friday-Saturday. Contact: Henry B. Bruyn, M.D., chairman, Sweet Seminar Committee, Fifty-First and Grove Streets, Oakland.

April 10-11—**American Laryngological Association.** St. Francis Hotel, San Francisco. Contact: Lyman Richards, M.D., executive secretary, 12 Clovelly Rd., Wellesley Hills, Mass.

April 13-16—**Intercontinental Congress of Ophthalmology.** Riviera Hotel, Palm Springs. Monday-Thursday. Contact: California College of Medicine, 1721 Griffin Avenue, Los Angeles.

April 20-22—**Harvey Cushing Society.** Ambassador Hotel, Los Angeles. Monday-Wednesday. Contact: Eben Alexander, Jr., M.D., secretary, Bowman Gray School of Medicine, Winston-Salem, N.C.

April 22—**Los Angeles County Heart Association.** Annual meeting. Statler-Hilton, Los Angeles. Wednesday. Noon. Contact: Chauncey A. Alexander, executive director, 2405 West Eighth Street, Los Angeles 90057.

April 27-29—**Nevada's Sixth Annual Cancer Seminar.** "Multi-Discipline Approach to Cancer Therapy." Sponsored by American Cancer Society, State/County Medical and Dental Societies. Sahara Hotel, Las Vegas. Monday-Wednesday. Full session: $25 (two luncheons). One day: $10 (plus luncheon). Contact: Kirk V. Cammack, M.D., chairman, 418 East Hoover #7, Las Vegas, Nevada 89101.

April 29-May 1 — **American Cleft Palate Association.** Statler-Hilton Hotel, Los Angeles. Wednesday-Friday. Contact: Betty Jane McWilliams, Ph.D., secretary-treasurer, University of Pittsburgh.

April 30-May 2 — **American Cleft Palate Association.** Statler-Hilton, Los Angeles. Contact: Betty Jane McWilliams, Ph.D., secretary-treasurer, University of Pittsburgh.

April 30-May 3—**Hawaii Medical Association.** 108th Annual Meeting. Princess Kaiulani Hotel, Honolulu. Thursday-Sunday. Contact: Randal A. Nishijima, secretary, 1124 Piikoi, Honolulu 14.

MAY MEETINGS

May 1-3—**Society of Biological Psychiatry.** Biltmore Hotel, Los Angeles. Contact: George N. Thompson, M.D., secretary-treasurer, 2010 Wilshire Boulevard, Los Angeles 90057.

May 1-4—**American Psychoanalytic Association.** Ambassador Hotel, Los Angeles. Contact: Mrs. Helen Fischer, executive secretary, 1 East 57th Street, New York 10022.

May 2—**Guild of Catholic Psychiatrists.** Biltmore Hotel, Los Angeles. Contact: Robert Buckley, M.D., executive secretary, 2216 Santa Monica Boulevard, Santa Monica.

May 2-3—**Academy of Psychoanalysis.** Biltmore Hotel, Los Angeles. Contact: Alfred H. Rifkin, M.D., Academy of Psychoanalysis, 125 East 65th Street, New York 10021.

May 3—**Association for Advancement of Psychotherapy.** Los Angeles. Contact: William Wolf, M.D., executive secretary, 40 West 59th Street, New York.

May 4-8—**American Psychiatric Association.** Biltmore Hotel, Los Angeles. Contact: Harvey J. Tompkins, M.D., secretary, 144 West 12th Street, New York 10011.

May 13-15 — **Highlights of Modern Ophthalmology.** Presbyterian Medical Center, San Francisco. Wednesday-Friday. $75. Contact: Secretary of the Lions Eye Bank, Presbyterian Medical Center, 2018 Webster Street, San Francisco.

May 14-16—**California Hospital Association.** Institute on Medico-Legal Problems. Ambassador Hotel, Los Angeles. Thursday-Saturday. $55. Contact: A. M. Millard, California Hospital Association, 760 Market Street, San Francisco 94102.

May 14-15—**Nevada Academy of General Practice.** Reno or Sparks. Contact: Mark B. Raymond, M.D., secretary-treasurer, 1001 Pyramid Way, Sparks, Nevada.

May 15-17—**California Heart Association.** Scientific Sessions and Annual Meeting. Hotel Del Coronado, Coronado. Contact: Paul H. Morton, M.D., chairman, Annual Meeting Committee, California Heart Association, 1370 Mission Street, San Francisco 94103.

May 23—**Ventura General Hospital Medical Staff.** Third Annual Medical Seminar. General Hospital, Ventura. 8:00 a.m. - 4:30 p.m. Contact: R. A. Blossom, M.D., Director of Laboratories.

May 29-31 — **California Society of Anesthesiologists.** First Social-Scientific Meeting. "Ventilation—with emphasis on intermittent positive pressure breathing." Riviera Hotel, Palm Springs. $15. Contact: Mr. Norman Catron, executive secretary, 39 North San Mateo Drive, San Mateo.

JUNE MEETINGS

June 10—**Los Angeles Radiological Society.** Los Angeles. Wednesday. Contact: Bernard J. O'Loughlin, M.D., executive secretary, Department of Radiology, UCLA Center for Health Sciences, Los Angeles 90024.

June 13—**Golden Gate Psychotherapy Society.** The Seventh Annual Scientific Conference and Institute. Millberry Union, University of California Medical Center, Parnassus and Arguello Streets, San Francisco. Saturday. 9:30 a.m.-4:00 p.m. Contact: F. H. Ernst, M.D., program chairman, 408 Tennessee Street, Vallejo.

June 17-20 — **Society of Nuclear Medicine.** Berkeley. Wednesday-Saturday. Contact: S. N. Turiel, executive secretary, 333 North Michigan, Chicago 60601.

June 18-19 — **American Rheumatism Association.** St. Francis Hotel, San Francisco. Thursday-Friday. Contact: Gerard W. Speyer, executive secretary, 10 Columbus Circle, New York 19.

June 18-20 — **Endocrine Society.** Sheraton-Palace Hotel, San Francisco. Thursday-Saturday. Contact: Henry H. Turner, M.D., secretary, 200 North Walker, Oklahoma City.

June 18-21—**American Therapeutic Society**—St. Francis Hotel, San Francisco. Thursday-Sunday. Contact: Oscar B. Hunter, Jr., M.D., secretary, 915 19th Street NW, Washington 6, D.C.

June 18-22—**American College of Chest Physicians.** Jack Tar Hotel, San Francisco. Thursday-Monday. Contact: Murray Kornfield, executive director, 112 East Chestnut, Chicago 60611.

June 19-20 — **American Geriatrics Society.** Sir Francis Drake Hotel, San Francisco. Friday-Saturday. Contact: Edward B. Allen, M.D., secretary, 10 Columbus Circle, New York 19.

June 20—**Academy of Tuberculosis Physicians.** California Hotel, San Francisco. Saturday. Contact: George P. Bailey, M.D., secretary, 1295 Clermont, Denver 20.

June 20—**American Association for Study of Headache.** San Francisco. Saturday. Contact: Lester S. Blumenthal, M.D., secretary, 5315 Connecticut Avenue NW, Washington 15, D.C.

June 21-25 — **American Medical Association.** Fairmont and Mark Hopkins hotels and Civic Auditorium, San Francisco. Sunday-Thursday. Contact: F. J. L. Blasingame, M.D., vice-president, 535 North Dearborn, Chicago 60610.

June 21—**Society for Surgery of the Alimentary Tract.** San Francisco. Sunday. Contact: Robert Turell, M.D., executive secretary, 25 East 83rd Street, New York 28.

June 21—**Society for Vascular Surgery.** San Francisco. Sunday. Contact: George H. Yeager, M.D., secretary, 314 Medical Arts Building, Baltimore 1.

June 21-23 — **Society for Investigative Dermatology.** Sheraton-Palace Hotel, San Francisco. Sunday-Tuesday. Contact: Herman Beerman, M.D., secretary-treasurer, 255 South 17th Street, Philadelphia 3.

June 21-25—**Women's Auxiliary to the American Medical Association.** St. Francis Hotel, San Francisco. Sunday-Thursday. Contact: Margaret N. Wolfe, executive secretary, 535 North Dearborn, Chicago 60610.

June 22-24 — **American Laryngological, Rhinological and Otological Society.** San Francisco. Monday-Wednesday. Contact: Victor R. Alfaro, M.D., secretary, 917 20th Street NW, Washington, D.C.

June 22-24—**Association for Research in Ophthalmology.** San Francisco. Monday-Wednesday. Contact: Herbert Kaufman, M.D., executive secretary, c/o Hillis Miller Health Center, Gainesville, Florida.

June 26-July 1 — **Second Hawaii Medical Seminar.** Sponsored by Hawaii Medical Association. Honolulu, Hawaii. Friday-Wednesday. Contact: Lee McCaslin, executive secretary, Hawaii Medical Association, 510 South Beretania Street, Room 200, Honolulu 13, Hawaii.

POSTGRADUATE EDUCATION

AUDIO-DIGEST FOUNDATION

Audio-Digest Foundation (a non-profit subsidary of the California Medical Association) provides by subscription twice-a-month tape-recorded summaries of leading national meetings and authoritative surveys of current literature. Seven separate services in: General Practice, Surgery, Internal Medicine, Obstetrics-Gynecology, Pediatrics, Anesthesiology, and Ophthalmology. A new Catalog of outstanding lectures and panel discussions in all areas of medical practice is also available. For information, write: Mr. Claron L. Oakley, Editor, 619 South Westlake Avenue, Los Angeles.

CALIFORNIA COLLEGE OF MEDICINE

April 13-16—**First International Congress of Ophthalmology.** "Specific Problems in Strabismus," presented in cooperation with the David Michael Eye Foundation. Riviera Hotel, Palm Springs. Monday-Thursday. $135. Contact: Congress of Ophthalmology, CCM, 1721 Griffin Avenue, Los Angeles 90031.

STANFORD UNIVERSITY

Mar. 20-21—**Dermatology of the Infant Child and Adolescent.** Friday-Saturday. $35. Contact: George Wilson, M.D., Clinical Associate Professor, Dept. of Dermatology, Stanford University School of Medicine, 300 Pasteur Drive, Palo Alto.

UNIVERSITY OF CALIFORNIA AT LOS ANGELES

April 4-25—**Postgraduate Medical Lecture Series in Japan, Formosa and Hong Kong.** Monday-Friday. 24 hours. $200. (Including Taiwan, $225.)

April 6-17 — **Prosthetics - Orthotics.** Monday - Friday. 90 hours. $200.

April 18-19—**A Symposium on Sexual Problems.** Saturday-Sunday. 12 hours.*

April 20-24—**Child Amputee Prosthetics.** Monday-Friday. 45 hours. $125.

May 2-3—**Chemotherapy.** Saturday-Sunday. 12 hours.*

May 16—**Management of Medical Emergencies.** Saturday. 6 hours.*

May 17—**Management of Pediatric Emergencies.** Sunday. 6 hours*

June 20-21—**Surgery of the Hand.** Saturday-Sunday. 12 hours.*

Dates by Arrangement—**Clinical Traineeship**—Anatomy, Anesthesia, Dermatology, Pediatrics, Radioisotopes, Urology: 2 weeks, $150; 4 weeks, $250. Minimum period, 2 weeks.

For information on courses for physicians or ancillary personnel, contact: Thomas H. Sternberg, M.D., Assistant Dean and Head, Department of Continuing Education in Medicine and Health Sciences, U.C.L.A. Medical Center, Los Angeles 24, 478-9711, Ext. 2114.

LOMA LINDA UNIVERSITY

As Arranged—**Traineeships** in clinical and other departments are available by arrangement with department chairmen of the Postgraduate Division. 80 hours minimum.

Anesthesia, 6 months. 250-300 hours. $350.

Pulmonary Diseases—can be arranged.

Continuously—**Illustrated Medical Lectures:** 30-minute tape recordings and accompanying 35-mm filmstrip, 50 to 80 full-color pictures for screen, hand or desk viewer. Available individually or by subscription. 12 or 36 titles per year, all titles produced in one year in any chosen specialty. Projectors and viewers included in subscription plans. Contact: Loma Linda University, Illustrated Medical Lectures, Los Angeles 33.

For course information contact: W. F. Norwood, Ph.D., Assistant Dean and Chairman, Division of Continuing Education, Loma Linda University School of Medicine, 1720 Brooklyn Ave., Los Angeles, California 90033, ANgelus 9-7241, Ext. 214.

UNIVERSITY OF CALIFORNIA, SAN FRANCISCO

March 21-May 5—**Psychiatric Management in General Practice.** Sequoia Hospital, Redwood City. Tuesday evenings. 12 hours. $15.

April 2-May 7—**Psychiatry for General Practice.** Stockton State Hospital. Thursday evenings. 12 hours. $10.

April 3-4—**Proctology.** Friday-Saturday. 14 hours. $15.

April 9-11—**Endocrinology and Metabolism.** Thursday-Saturday. 20 hours. $50.

April 16-17—**General Surgery.** Thursday-Friday. 14 hours. $50.

April 18-19 — **Gonioscopy.** One-day course. Saturday or Sunday. 6 hours. $25.

April 25-26—**The Mentally Retarded, The Community and the Hospital.** Sonoma State Hospital. Saturday-Sunday. 10 hours. $10.

April 30-May 2—**Ear, Nose and Throat.** Thursday-Saturday. 20 hours. $60.

May 1-2 — **Pediatric Emergencies.** Friday-Saturday. 17 hours. $50.

May 24—**Heart Association of the Redwood Empire.** Brook Trails Lodge, Willits. Sunday. 8 hours. $20.

Continuously—Courses presented by special arrangement: Principles and Clinical Uses of Radioisotopes (full time, one to three months).

For information on courses for physicians or ancillary personnel, contact: Seymour M. Farber, M.D., Assistant Dean, Dept. of Continuing Education in Medicine and Health Sciences, University of California Medical Center, Room 565-U, San Francisco 22, MOntrose 4-3600, Ext. 179.

UNIVERSITY OF SOUTHERN CALIFORNIA

March 30-April 3—**Mental Retardation Institute.** Children's Hospital, 4614 Sunset Blvd., Los Angeles. Monday-Friday. 7 hours. $50.

April 1-May 20 — **Advances in Cardiology.** Huntington Memorial Hospital, 100 Congress Street, Pasadena. Wednesday evenings. 2 hours. $37.50.

April 6-11—**Mental Retardation Institute.** Monday-Friday. 7 hours. $50.

April 9-June 11—**Ward Walks in Rare Diseases.** Thursdays. 2 hours weekly. $100.

April 22-May 13—**Advanced Funduscopy.** Los Angeles County Hospital—Outpatient Building, 5th Floor, 1175 Cummings Street, Los Angeles. Wednesday evenings. 2 hours. $37.50.

May 31-June 30—**Third Annual Medical Tours of Europe.** $250.

June 11-12—**Vector Analysis.** Statler-Hilton Hotel, 930 Wilshire Blvd., Los Angeles. Thursday-Friday. 8 hours. $40.

June 24-26 — **Treatment of Fractures.** Los Angeles County Hospital, 1200 North State Street, Los Angeles. Wednesday-Friday. 8 hours. $75.

Aug. 1-12—**Seventh Annual Postgraduate Refresher Course in Hawaii.** $100.

Continuously—**Basic Home Course in Electrocardiography.** One year postgraduate series, ECG interpretation by mail. Fifty-two issues $100. Physicians may register at any time.

Continuously—**Advanced Home Course in Electrocardiography.** One year postgraduate series, ECG interpretation by mail. Fifty-two issues $85. Physicians may register at any time.

For course information contact: Phil R. Manning, M.D., Assoc. Dean, Postgraduate Division, USC School of Medicine, 2025 Zonal Ave., Los Angeles 90033, CApital 5-1511, Ext. 300.

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*Fee to be announced.

CALIFORNIA MEDICAL ASSOCIATION

Committee on Continuing Medical Education
14th Annual Postgraduate Institutes, 1964

April 10-11—WEST COAST COUNTIES, in cooperation with Stanford School of Medicine. FOUR HALF-DAY SESSIONS: **(1) Non-surgical Treatment of Cancer, (2) Infections, (3) Problems in Adolescence, (4) Renal Disease.** Del Monte Lodge, Pebble Beach. Chairman: William B. Wenner, M.D., 726 Cass Street, Monterey.

April 23-24—NORTH COAST COUNTIES, in cooperation with UCLA School of Medicine. Brooktrails, Willits.

The Human Kidney in Health and Disease. Chairman: Patrick R. Allanson, M.D., 728 South State Street, Ukiah.

May 7-8—SAN JOAQUIN COUNTIES, in cooperation with Loma Linda University School of Medicine, Ahwahnee Hotel, Yosemite. **Gastroenterology.** Chairman: Leo Goodman, M.D., 1341 Wishon Avenue, Fresno.

June 25-27—SACRAMENTO VALLEY COUNTIES, in cooperation with USC School of Medicine. **Kidney Disease.** Harvey's Wagon Wheel, Lake Tahoe. Chairman: William Tucker, M.D., 3560 "Jay" Street, Sacramento.

For information regarding Postgraduate Institutes and Circuit Courses, contact: Continuing Medical Education, California Medical Association, 693 Sutter Street, San Francisco 94102. PRospect 6-9400, Ext. 68.

TO HAVE YOUR MEETING OR PROGRAM LISTED IN CALIFORNIA MEDICINE
FILL OUT AND MAIL THIS BLANK TO THE ADDRESS GIVEN
(COPY MUST BE **RECEIVED** NOT LATER THAN THE **FIFTH OF THE MONTH PRECEDING** ISSUE)

Continuing Medical Education, California Medical Association
693 Sutter Street, San Francisco, California 94102

NAME OF ORGANIZATION____________________

MEETING OR PROGRAM____________________

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DATE____________________TIME__________

PLACE____________________FEE, IF ANY__________

CONTACT FOR INFORMATION:____________________
(give name, title, address)

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THE PHYSICIAN'S *Bookshelf*

PROTEIN METABOLISM—Influence of Growth Hormone, Anabolic Steroids, and Nutrition in Health and Disease—An International Symposium, Leyden, 25th-29th June, 1962, sponsored by CIBA. A. Querido, Leyden, Chairman; edited by F. Gross, Basle. Springer-Verlag, Berlin, Gottingen, Heidelberg, 1962. 521 pages, with 159 Figures. (No price given)

This volume represents an outstanding contribution to medical science not unexpected in the Symposia sponsored by the Ciba foundation. Gathered together were the world's experts on the influences of hormones and nutrition on protein metabolism, each to contribute his unique discoveries and to critically discuss the findings of others. Especially significant are the contributions of Dr. A. Korner of the Department of Biochemistry in Cambridge, England and his description of the effect of growth hormone on protein synthesis by the isolated ribosomes of rat liver cells. Dr. M. Raben succinctly discusses the present knowledge of the metabolic effects of growth hormone in man.

This volume is for the expert in metabolism, nutrition or biochemistry, but anyone who can understand the material will come away with a fuller knowledge of this rapidly advancing area.

Josiah Brown, M.D.

* * *

YEAR BOOK OF ANESTHESIA (1963-1964 Year Book Series)—edited by Stuart C. Cullen, M.D., Professor and Chairman, Department of Anesthesia, University of California Medical Center, San Francisco. Year Book Medical Publishers, Inc., 35 E. Wacker Drive, Chicago 1, Ill., 1963. 392 pages, $8.50. (This volume is the first edition of a YEAR BOOK devoted entirely to matters anesthetic. In the past, articles related to anesthesia have appeared as part of the YEAR BOOK OF GENERAL SURGERY.)

This first edition represents an expansion of the smaller section which has appeared for many years in the YEAR BOOK OF GENERAL SURGERY. In the style of yearbook publications for other medical specialties, the contents consist of abstracts of 311 articles of interest to anesthesiologists from a variety of scientific publications. Many abstracts are followed by short comments by the Editor in evaluating the material and its application to clinical practice. The selection of articles and his comments represents the many years of experience of the Editor in publication, teaching and practice. The concise yet meaningful abstracts are of articles from the literature of the basic sciences, medicine, surgery and other medical specialties as well as that devoted to practical problems of anesthesiology. Illustrations have been reproduced to present graphic and detailed information. Cross indexing by both author and subject material facilitates location of a particular abstract and provides a ready bibliography on a specific subject. In addition, the abstracts have been grouped into 16 sections according to general subject matter.

The book will be useful for those desiring to cover current anesthesiology literature, to prepare papers or seminars or to review for examinations. The material is not conducive to continous reading but individual abstracts can be read during short available periods without loss of continuity. The small size of the book is adaptable to convenient transportation. This book is especially needed by the anesthesiologist who either does not have a complete medical library easily accessible or does not have time for preparing his own abstracts.

John W. Pender, M.D.

* * *

FUNDAMENTALS OF MEDICAL EDUCATION—Thomas B. Turner, M.D., Dean of the Medical Faculty, The Johns Hopkins University, Baltimore, Maryland. Charles C. Thomas, Publisher, 301-327 East Lawrence Avenue, Springfield, Ill., 1963 80 pages $3.75.

The dean of a medical school in his capacity as academic leader of the faculty and administrator is frequently called upon to discuss and interpret almost all phases of medical education with various bodies, both public and private. Over a period of time a somewhat heterogeneous collection of essays, memoranda, and notes on different aspects of the subject accumulate in his files. Some of these receive publication in medical or educational journals or occasional proceedings. but undoubtedly the majority remain unpublished.

This slender volume is just such a collection of occasional papers by the Dean of the Faculty of Medicine of Johns Hopkins University. Only four out of the ten essays have received prior publication. They examine such topics as medicine as a career, given to a biology club; a discussion for foreign scholars on faculty organization in U. S. medical schools; on the place of the basic sciences and the liberal arts in medical education; on graduate and postgraduate education in both medicine and public health; on curricular problems; and on finances.

The papers making up the present volume had their greatest relevance to the occasion at which they were first presented; but as a collection they cannot be considered as providing a very satisfactoy discussion of the fundamentals of medical education as implied by the title of the whole. Despite editing, there is overlap of content which the author, in acknowledging, hopes will carry emphasis. Naturally confined by temporal restrictions of the occasion, the series read in continuity hardly does justice to the theme, perforce being at times dogmatic, sometimes contradictory, and usually uncritical. The inclusion of the four paragraphs making up the author's introductory remarks to the Gilman Lectureship, although gracious, add nothing.

Disappointing though the volume is in its major theme, the individual essays present both well and with clarity current thought on many individual aspects of medical education. Despite limitations of the essays, they can be read with profit.

THE PREVENTION OF HOSPITALIZATION—Treatment Without Admission for Psychiatric Patients—Milton Greenblatt, M.D., Robert F. Moore, M.D., Robert S. Albert, Ph.D., and Maida H. Solomon, B.A., B.S. Contributing Authors: Margaret M. Anderson, R.N., M.S., Lenore A. Boling, M.D., Bertram S. Brown, M.D., James F. W. Cox, M.D., Betty Ann Glasser, S.M., and Mary Jane Manning, S.M. Grune & Stratton, Inc., 381 Park Avenue South, New York 16, N. Y., 1963. 182 pages, $7.50.

This well printed, well organized, slim volume is a comprehensive report of the operation and findings of the Community Extension Service operated by the Massachusetts Mental Health Center (previously known as the Boston Psychopathic Hospital). The service was supported by the New Projects Grant Division of National Institutes of Health for a research demonstration program entitled "Prevention of Hospitalization of Psychotic Referred to the Massachusetts Mental Health Center." The basic assumption of the service appears to have been that it is preferable to treat psychotic patients through extra-hospital resources and by doing so circumvent actual hospitalization.

A total of 128 patients was selected for the project. The report demonstrates in extremely practical terms the actual prevention of hospitalization of one out of every two of these patients who had been referred for hospitalization to the Massachusetts Mental Health Center. This finding is both startling and impressive. An extensive breakdown of factors entering into the decision for hospitalization is provided.

This book should find a special place in the current planning and implementation of community psychiatric treatment resources. Its emphasis on the practical problems encountered in regard to community attitudes, modes of operation, and resources available as they are now constituted, will provide bases for constructive approaches to the implementation of the thesis that patients are best treated in their own community close to their own families. The book has a special bonus: sections devoted to the factors which influence referrals for hospitalization by both psychiatrists and general practitioners. These should prove both illuminating and informative to the medical profession in general. Bringing together a number of articles, some previously published, in convenient book form, will serve as a valuable reference source for those engaged in the treatment of psychiatric patients in crisis who do not fit into the schema of traditional well ordered routinized facilities.

Ulrich B. Jacobsohn, M.D.

* * *

OBSTETRICS AND GYNECOLOGY—Second Edition—J. Robert Willson, M.D., Professor and Head of the Department of Obstetrics and Gynecology and Clayton T. Beecham, M.D., Professor of Clinical Obstetrics and Gynecology, both from Temple University School of Medicine; and Elsie Reid Carrington, M.D., Research Professor of Obstetrics and Gynecology, Woman's Medical College of Pennsylvania. The C. V. Mosby Company, 3207 Washington Blvd., St. Louis 3, Missouri, 1963. 738 pages, 333 illustrations, $13.75.

In preparing a comprehensive, combined textbook of Obstetrics and Gynecology, one faces the dilemma of either not omitting a detail and writing an encyclopedic treatise or of preparing an inadequate synopsis for the sake of brevity. The authors of this book have attempted to resolve this dilemma and have avoided either extreme by writing a text that is reasonably comprehensive but not exhaustive. The chapters are arranged in a logical sequence in which the specialty is correctly treated as one integrated branch of medicine.

There are a few points on which this reviewer might quibble. Examples include the picture of a two-finger vaginal examination on pages 24-25. On page 75, Figure 27-C does not represent congenital atresia of the cervix and Figure 27-J does not represent acquired atresia of the cervix. On page 132, Curve F is not labeled. It is doubtful that it is necessary for one to scrub and perform sterile vaginal examinations in the delivery room during labor. In general, however, the authors present a conservative, balanced account of the problems of clinical practice. The illustrations are clear and well chosen to supplement the text. Helpfully, the references appear at the end of each chapter and although some are out of date, many of the classics are included.

The question arises as to whether this second edition is justified. Although the book has increased in size from 605 to 738 pages, only a short chapter on "The Psychology of Woman" has been added and there is a paucity of changes throughout the remaining text. Large portions of the text represent chapters that are only slightly modified from the senior authors' well known volume, "Management of Obstetric Difficulties." It is unfortunate that the name of the late Isador Forman has been omitted from the list of authors as chapters from his pen still account for at least 25 per cent of the text.

Medical students, for whom the book is primarily intended, will find a broad survey of the field with sufficient information for passing examinations. The superficial treatment of many problems, however, does not necessarily develop a rationale for given mode of management. Areas of controversy are generally avoided and little investigative work is included. Many of the useful details of management are also lacking, and this makes the book of limited value to clinicians.

Despite these drawbacks, however, this is a well-prepared volume that is what it claims to be, a practical textbook containing the basic principles of obstetrics and gynecologic practice. It would be well if the information contained were known not only to students but to all practicing physicians as well.

Lawrence D. Longo, M.D.

* * *

CIRCULATORY PHYSIOLOGY: Cardiac Output and Its Regulation—Arthur C. Guyton, M.D., Professor and Chairman of the Department of Physiology and Biophysics, University of Mississippi Medical Center, Jackson, Mississippi. W. B. Saunders Company, West Washington Square, Philadelphia 5, Pa., 1963. 468 pages, $15.00.

Present day cardiology relies heavily on physiological methods, one might even describe the current status of cardiology as its physiological era. The heart is a pump so that naturally the output of the pump is a paramount factor, a determinant of its function. Yet it is only 20 years or less since reliable methods of study of cardiac output in man have been introduced. Consequently, a large body of literature in recent years has been devoted to cardiac output and its regulation. Dr. Guyton, the author of this book, is an expert and a distinguished investigator in the field, who has summarized his own studies and those of others. The monograph contains five sections: 1. Normal values and methods; 2. Regulation of cardiac pumping action; 3. Regulation of venous return; 4. Analysis of cardiac output regulation; 5. Regulation of cardiac output in specific states. The book is well written and illustrated. As a monograph on a small and complex subject it offers different things to different readers. The extensive discussion of the methodology will be invaluable to the investigator in the field. The presentation of variation and changes in cardiac output in various clinical states (Part 5) will be of interest to the clinician, who can deepen his understanding of patient care. Most of the book will be of value to the clinical physiologist and the "laboratory cardiologist." This is unquestionably one of the more important books on basic aspects of cardiovascular disease to appear recently and deserves hearty recommendation.

Arthur Selzer, M.D.

THE INCUBATION PERIOD OF CORONARY THROMBOSIS—G. R. Osborn, M.B., B.S. (Melbourne), M.R.C.P., Pathologist to the Derbyshire Royal Infirmary; Honorary Lecturer, Department of Pathology, University of Sheffield. With a Chapter on Haemodynamics of the Coronary Circulation by R. F. Davis, M.Sc., M.I.Mech.E., Director, International Combustion Limited, Derby. Photography by J. S. Fayers, Clinical Photographer, Derbyshire Royal Infirmary. Butterworths, London, 1963. 190 pages, $11.00.

This book is beautifully and extensively illustrated with high quality microphotographs of coronary arteries and provides a fine visual presentation of the various pathological changes that are seen in coronary artery disease.

The author presents a pathologist's view of the pathogenesis of coronary artery disease. The part played by an abnormality of lipid metabolism is de-emphasized, while the importance of the development of abnormal coronary arteries during childhood and adolescence is stressed.

The principal weakness of this work is the lack of integration with the current literature. This intentional omission does, however, provide a fresh viewpoint and a new approach to coronary artery disease. Except in the realm of hemodynamics, there is little attempt to correlate the anatomical data obtained with information from other disciplines.

An attractive feature is the chapter on hemodynamics of the coronary circulation written by an engineer. This section is presented with sufficient clarity to be understood even by physicians who have not had any formal instruction in mathematics for two or more decades.

Some of the concepts presented are sufficiently new and different that they are likely to become the subject of controversy as well as the stimulus for additional research.

* * *

CLINICAL TOXICOLOGY OF COMMERCIAL PRODUCTS—Acute Poisoning (Home & Farm)—2nd Ed., Marion N. Gleason, M. Sc., (h.c.), Research Associate in Pharmacology, School of Medicine and Dentistry, The University of Rochester, New York; Robert E. Gosselin, M.D., Ph.D., Professor of Pharmacology, Dartmouth Medical School, Hanover, New Hampshire; and Harold C. Hodge, Ph.D., D.Sc., Professor of Pharmacology and Toxicology, School of Medicine and Dentistry, The University of Rochester, Rochester, New York. The Williams & Wilkins Co., Baltimore 2, Maryland, 1963. 1211 pages, $22.00.

This second Edition of an encylopedic reference book on the toxicology materials found in the home and on the farm, by the distinguished Professor Hodge and two of his pupils, follows the plan of the First Edition. It has the same 7 sections of colored pages: First Aid and General Emergency Treatment (pink), Ingredients Index (blue), Therapeutics Index (white), Supportive Treatment (green), Trade Name Index (yellow), General Formulations (white) and Manufacturers' Names and Addresses (pink). An 8th Section has been added, entitled Classification of Poisons (white). In spite of many additional or re-written paragraphs, there are only 1211 pages of text material in the Second Edition compared to 1123 pages in the First Edition.

Because of the alphabetical arrangement of titles of toxic materials, the 36 pages of index of the First Edition have been omitted from the Second Edition.

It is impractical to review a book of this type in detail or to point out all the changes that have gone into the making of the Second Edition. Attention is given to the general make-up of the book and to a few examples of differences between the two Editions.

In Section I, on First Aid and General Emergency Treatment, only minor changes have been made. The description of special tubes for artificial respiration and resuscitation equipment has been amplified, Ipecac Syrup has been added to the short list of emetics, castor oil to the cathartics, atropine, ethyl alcohol, and PAM to the special antidotes and bemegride to the stimulants and analeptics. Although epinephrine is listed among the analeptics, there is no mention made of norepinephrine, phenylephrine and other useful adrenergic stimulants of circulation in this part of the book, although listed later. In Section II on Ingredients Index, sufficient new products have been added to increase the section by 37 pages. Fourteen double column pages of references is a new feature for Section II.

Section III is entitled Therapeutics Index. It "summarizes clinical and experimental data on 76 compounds which in Section II are named 'reference congeners' because each typifies toxicologically a group of related substances." Nine items have been added in this new edition, including chlorpromazine, lye, meprobamate and reserpine.

Section IV on Supportive Treatment in Acute Chemical Poisoning contains 76 pages of text and tables. Supportive treatment is a phase of management of poisoning often neglected or minimized in the usual textbook on toxicology. Under the heading of Respiration are discussed various methods of artificial respiration and oxygen therapy, and pulmonary edema. Circulatory failure is divided into Vasogenic Shock, Oligemic Shock and Heart Failure, with a thoroughgoing description of drugs and procedures for treating each type of failure. It is in this Section that most of the sympathomimetic vasoconstrictors are discussed. The new method of external cardiac massage and the use of electrical defibrillators and pace-makers are lucidly described. Disturbances of central nervous system, gastrointestinal tract, urinary system, liver, electrolytes and water balance, nutrition, infections, allergies and blood dyscrasias and their general and drug treatment are adequately explained.

The Trade Name Index, or Section V, lists everything fromm A.A.A. Paste No. 1 to Zynephrin Tablets, giving not only the composition of the preparation but in most cases, the intended use and manufacturer.

Entitled General Formulations, Section VI lists types of injurious substances, such as abrasive cleaners and abrasives, adhesives, agricultural commodities through to zipper lubricant, giving the composition of each item or class. For example, under the heading Citrus Fruits are listed degreening agents, 5 fumigants, 30 insecticides, postharvest sprays and dips, soil treatment fumigants, soil treatment herbicides, soil treatment insecticides and soil treatment rodenticides. Two and one-fourth double column pages are devoted to insecticides for all purposes. Art kits, bouncing putty, children's chemistry sets, toy caps, paints and photographic products are illustrative of as nearly a complete list of household items as is possible to include in such a book.

The Manufacturers' Index of Section VII with addresses makes it possible in an emergency to telephone or telegraph for details of information not included in the book.

It seems to the reviewer that the Classification of Poisons of the new Section VIII has academic (and perhaps legal) rather than practical value in the handling of a case of poisoning. It is based on material published in the 5th edition of Standard Nomenclature of Diseases and Operations. The authors state that this Section is included not only to aid the physician in classifying diagnosis but also to stimulate a search for a better classification. The classification is given in great detail, with code numbers. It may eventually become of importance, but your reviewer fails to warm up to this section and thinks it might well be omitted.

A bibliography is appended to each section.

This book should be in every doctor's office for quick reference.

Clinton H. Thienes, M.D.

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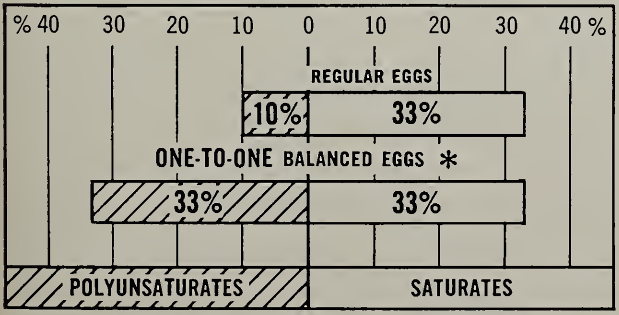
EGG LIPID COMPARISON CHART[6]

(comparing unsaturated and saturated fats in One-To-One balanced eggs and regular eggs)



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References: 1. Nutritive Value of Foods, Home and Garden Bulletin No. 72, pp. 4-5, United States Department of Agriculture, (September) 1960. 2. Goddard, V. R. and Goodall, L.: Home Economics Research Report No. 7, Agricultural Research Service, United States Department of Agriculture. 3. Data on file, Drew Foods, New York, N. Y. 4. The Regulation of Dietary Fat, A Report of the Council on Foods and Nutrition, J.A.M.A. *181*:411 (August 4) 1962. 5. Green, J. G., Brown, H. B., Meredith, A. P., and Page, I. H.: Use of Fat-Modified Foods for Serum Cholesterol Reduction, J.A.M.A. *183*:91 (January) 1963. 6. Based on laboratory data, on file, Drew Foods, New York, N. Y. 7. Stefanik, P. and Trulson, M. F.: Modifying the Fatty Acid Content of the Diet, J. Am. Dietet. A., *34*:591 (June) 1958.

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BOOKS RECEIVED

Books received by CALIFORNIA MEDICINE *are acknowledged in this column. Selections will be made for more extensive review in the interest of readers as space permits.*

ATOMIC ENERGY ENCYCLOPEDIA IN THE LIFE SCIENCES—Charles Wesley Shilling, M.D., D.Sc., consultant to United States Atomic Energy Commission; Deputy Director, Division of Biology and Medicine, United States Atomic Energy Commission, 1955-1960, Editor and Major Contributor; with the assistance of Miriam Teed Shilling, M.A. Prepared under the auspices of the Division of Technical Information, United States Atomic Energy Commission. W. B. Saunders Company, Philadelphia & London, 1964. 474 pages. $10.50.

CIGARETTE SMOKING AND HEALTH—A Review of Studies by the California State Department of Public Health; A Summary of Opinion; A Proposal for Action—State of California, Department of Public Health, 2151 Berkeley Way, Berkeley 4, California. 36 pages, paperbound. (This publication is not for sale, but single copies are available to professional persons and libraries on request, within the limits of the supply, from the Bureau of Health Education, California State Dept. of Public Health, 2151 Berkeley Way, Berkeley 4, Calif., 94704.)

CURRENT PEDIATRIC THERAPY—Sydney S. Gellis, M.D,. Professor of Pediatrics and Chairman of the Department of Pediatrics, Boston University School of Medicine; Director of Pediatrics, Boston City Hospital; and Benjamin M. Kagan, M.D., Director, Department of Pediatrics, Cedars of Lebanon Hospital, Los Angeles; Clinical Professor of Pediatrics, University of California, Los Angeles. W. B. Saunders Company, Philadelphia & London, 1964. 747 pages, $16.00.

DEVELOPMENT OF THE BRAIN AND ITS DISTURBANCE BY HARMFUL FACTORS, THE—B. N. Klosovskii. Translated from the Russian and edited by Basil Haigh, M.A., M.B., B.Chir. A Pergamon Press Book, distributed by The Macmillan Company, 60 Fifth Avenue, New York 11, pursuant to a special arrangement with Pergamon Press Limited, Oxford, England, 1963. 275 pages, $9.75.

DISEASES OF THE HEART AND BLOOD VESSELS—Nomenclature and Criteria for Diagnosis—Sixth Edition—The Criteria Committee of the New York Heart Association: Charles E. Kossman, M.D., Chairman; Herbert Chasis, M.D.; Charles A. R. Connor, M.D.; Clarence E. De La Chapelle, M.D.; William T. Foley, M.D.; Rejane M. Harvey, M.D.; Edwin P. Maynard, Jr., M.D.; and John B. Schwedel, M.D. Medical Book Dept., Little, Brown and Company, Boston 6, 1964. 463 pages, $5.50.

HANDBOOK OF DIETETICS FOR NURSES—2nd Edition—Catherine F. Harris, S.R.N. (The London Hospital), Dietetic Diploma, R.C.N., Chief Therapeutic Dietitian, University College Hospital, London. Foreword by Professor M. L. Rosenheim, C.B.E., M.A., M.D., F.R.C.P., Professor of Medicine, University College Hospital School. Balliere's Handbooks for Nurses—The Williams & Wilkins Co. Baltimore 2, Md., exclusive U.S. agents, 1963. 232 pages, $5.50.

MANUAL OF CLINICAL NUTRITION—Robert S. Goodhart, M.D., Scientific Director, The National Vitamin Foundation, Inc.; Physicians-in-Charge, Washington Heights Nutrition Clinic, New York City Department of Health, New York, New York; and Michael G. Wohl, M.D., Chief of Nutrition Clinic, Philadelphia General Hospital; Emeritus Clinical Professor of Medicine, Temple University School of Medicine; Consultant in Medicine, Albert Einstein Medical Center, Philadelphia, Pa. Lea & Febiger, Philadelphia, 1964. 279 pages, $5.50.

MECHANISMS CONCERNED WITH CONCEPTION—Proceedings of a symposium prepared under the auspices of the Population Council and the Planned Parenthood Federation of America. Edited by Carl G. Hartman, Chairman of the Biological Research Committee of the Planned Parenthood Federation of America. A Pergamon Press Book, distributed by The Macmillan Company, 60 Fifth Avenue, New York 11, pursuant to a special arrangement with Pergamon Press Limited, Oxford, England, 1963. 526 pages, $17.50.

MEDICAL ASSISTANT, THE — A Guidebook for the Nurse, Secretary, and Technician in the Doctor's Office—Second Edition—Miriam Bredow, former Director, Eastern School for Physicians' Aides, New York. Blakiston Division, McGraw-Hill Book Company, 330 West 42nd Street, New York, N. Y., 1964. 477 pages, $7.95.

MOTOR FUNCTION IN THE LOWER EXTREMITY—Analyses by Electronic Instrumentation—J. R. Close, M.D., Department of Orthopaedic Surgery, Highland-Alameda County Hospital, Oakland, Calif.; and Department of Orthopaedic Surgery, University of California School of Medicine, San Francisco, Calif. Charles C. Thomas, Publisher, 301-327 East Lawrence Avenue, Springfield, Ill., 1963. 156 pages, $10.75.

PLANNING YOUR FAMILY — The Complete Guide to Birth Control, Overcoming Infertility, Sterilization. Alan F. Guttmacher, M.D., President, Planned Parenthood Federation of America; former Director and now Consultant, Obstetrics and Gynecology, the Mount Sinai Hospital, New York; Clinical Professor of Obstetrics and Gynecology, Columbia University College of Physicians and Surgeons; Lecturer, Harvard School of Public Health; With Winfield Best and Frederick S. Jaffe. The Macmillan Company, New York and Collier-Macmillan Limited, London, 1964. 329 pages, $5.95.

PROGRESS IN MEDICAL GENETICS—VOL. III—edited by Arthur G. Steinberg, Ph.D., Professor of Biology, Department of Biology, and Associate Professor of Human Genetics, Department of Preventive Medicine, Western Reserve University, Cleveland, Ohio; and Alexander G. Bearn, M.D., Associate Professor, The Rockefeller Institute; Physician Hospital of the Rockefeller Institute, New York. Grune & Stratton, Inc., 381 Park Avenue South, New York 16, N. Y., 1964. 266 pages, $12.25.

PROGRESS IN MEDICINAL CHEMISTRY—Volume 3—edited by G. P. Ellis, B.Sc., Ph.D., F.R.I.C., Department of Chemistry and Biology, Welsh College of Advanced Technology, Cardiff; and G. B. West, B.Pharm., D.Sc., Ph.D., School of Pharmacy, University of London. Butterworth Inc., Washington, D.C., 1963. 407 pages, $15.75.

SEARCH THE SCRIPTURES—A Physician Examines Medicine in the Bible—Robert B. Greenblatt, M.D., Medical College of Georgia. With a foreword by Ralph McGill, The Atlanta Constitution. J. B. Lippincott Company, East Washington Square, Philadelphia 5, Pa., 1963. 127 pages, $4.00.

SLEEP AND WAKEFULNESS—Revised and Enlarged Edition—Nathaniel Kleitman. The University of Chicago Press, 5750 Ellis Avenue, Chicago, Ill., 1963. 552 pages, $12.50.

TECHNIQUES IN MEDICAL COMMUNICATION—Warner F. Bowers, A.B., B.Sc., M.D., M.S., Ph.D., F.A.C.S., Director, Graduate School of Medical Sciences, Professor of Clinical Surgery, Department of Surgery, New York Medical College Metropolitan Medical Center, New York City. Charles C. Thomas, Publisher, 301-327 East Lawrence Avenue, Springfield, Ill., 1963. 88 pages, $4.50.

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HUMAN ENDOCRINOLOGY, in 3 vols. By Herbert S. Kupperman, M.D. 1242 pages. Illustrated. (1963) Davis. $35 (boxed set).

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Second Blood Fat Important In Arterial Disease

A high concentration of cholesterol in the blood is usually not associated with coronary or cerebral artery disease unless another blood fat, triglyceride, also is elevated, a study indicated recently.

It was also found that a low blood cholesterol level may be associated with coronary artery or cerebrovascular disease if the triglyceride content is increased.

The role of triglyceride in arterial disease was emphasized in a report by Drs. Robert G. Feldman, New Haven, Conn., and Margaret J. Albrink, Morgantown, W. Va., in the January *Archives of Neurology*, published by the American Medical Association.

The report was based on a study of 63 men, aged 37 to 73, with cerebrovascular disease and 399 normal men. However, the researchers analyzed the findings in conjunction with a previous study of blood fats and coronary disease.

The importance of evaluating the effect of therapy on triglycerides as well as cholesterol is brought out in both studies, they concluded.

Simple weight reduction is probably the most effective means of lowering blood triglycerides, they added.

"Kissing Bug" Reported In Los Angeles

The "kissing bug," which can cause an allergic reaction and transmit disease, now infests the Southwestern United States according to a report in the December *Archives of Internal Medicine*, published by the American Medical Association.

Dr. Robert L. Swezey, Los Angeles, called attention to this fact, he said, because the association of kissing bugs and the disease, trypanosomiasis, was once regarded as limited to Mexico and to Central and South America.

Persons apparently can become sensitized to the kissing bug through an unnoticed contact with the black beetle-like insect, Dr. Swezey said. In a sensitized person, the insect's bite can cause such symptoms as weakness, swelling, fever, severe itching and nausea, he said.

The insect also is capable of transmitting a parasitic organism, Trypanosoma cruzi, which causes trypanosomiasis, he said. The disease in the acute stage causes fever, general swelling, and anemia, he said, and in the chronic stage involves the heart, nervous system, liver and spleen.

Dr. Swezey reported the case of a 35-year-old housewife who was bitten by a kissing bug in her home in the upper Benedict Canyon region of Beverly Hills, Calif., on Aug. 22, 1960. The patient reported similar episodes of illness among several of her neighbors, he said.

There are several species of kissing bug, technically termed Triatoma, Dr. Swezey pointed out, and the insects are known as assassin bug, cannibal bug, and pirote bug, the Mexican bedbug, giant bedbug, blood sucker, Chinese bedbug, and the bellows bug.

Kissing bug is the name generally applied to a large order of insects, Hemiptera, characterized by mouth parts adapted to piercing or sucking.

The insects frequent the burrows of armadillos and rats, as well as outbuildings and stables, Dr. Swezey said. During the day they remain in cracks and holes in the wall or between boards and come out at night to feed, he said. They may be brought into the house when outdoor furniture is carried indoors, he added.

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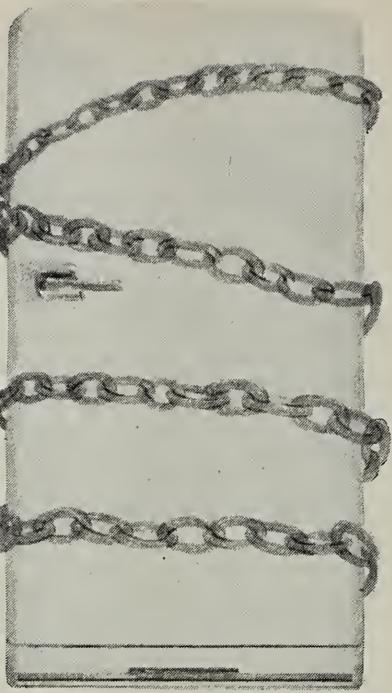

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"Likes Marry Likes," Study Indicates

Likes marry likes, a study of the wives of 38 well-adjusted "normal" American men indicated recently.

Individuals who are essentially mentally healthy select mentally healthy spouses, Jules S. Golden, M.D., Reuben J. Silver, Ph.D., and Nathan Mandel, Ph.D., Albany, N.Y., concluded from the study reported in the December *Archives of General Psychiatry,* published by the American Medical Association.

The well-adjusted men were drawn from nearly 2,000 boys who obtained a "perfectly normal" score on a psychological test, the Minnesota Multiphasic Personality Inventory, when they were in the ninth grade, the researchers said. At age 26 and 27, 50 of these men were found to be unusually well-adjusted socially and psychologically, they said. The 38 available wives of the 40 men who had married were then studied as to their sociological and psychological adaptation, they said.

The mean profile of the wives' scores on the Personality Inventory affords an objective and highly reliable independent evaluation of their psychiatric status, the researchers said. This shows the wives to be "astonishingly normal," they said.

"It is of particular interest . . . that the general configuration of the profile of the women is almost identical with that of their husbands" they said. "Husbands and wives rate high in contentment with their lot in life, effectiveness, and over-all adjustment," they said. "On items reflecting 'richness of personality' both men and women had a low rating," they said.

"Both men and women are seen as essentially content with their lot in life," they said. "The women have even less striving for upward social mobility than do the men. Their aspirations appear to be in keeping with what they can realistically anticipate in their lifetimes."

The general impression of the wives was that the "greatest majority are in the normal range, reasonably intelligent, middle-class and making an adequate middle-class adjustment; with some concern with appearances and 'keeping-up' but essentially 'home and children' oriented," they said.

The findings are consistent with the theory that marital success and happiness are dependent upon the man and wife having a similar social background, the researchers said.

In considering the marital relationship of these couples, they said, it was found that the husbands appeared somewhat dominant in 19 marriages and were markedly domineering in 4, while in 9 marriages neither partner dominated and in only 6, did the wives give evidence of dominance.

"Investigation of more representative samples would have to prove whether or not our couples are

(Continued on Page 67)

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References: 1. Calloway, N. O.: Article to be published. 2. Raddin, J. B., and Dowell, L. B.: Amer. J. Gastroent., 37:24-40 (January) 1962.

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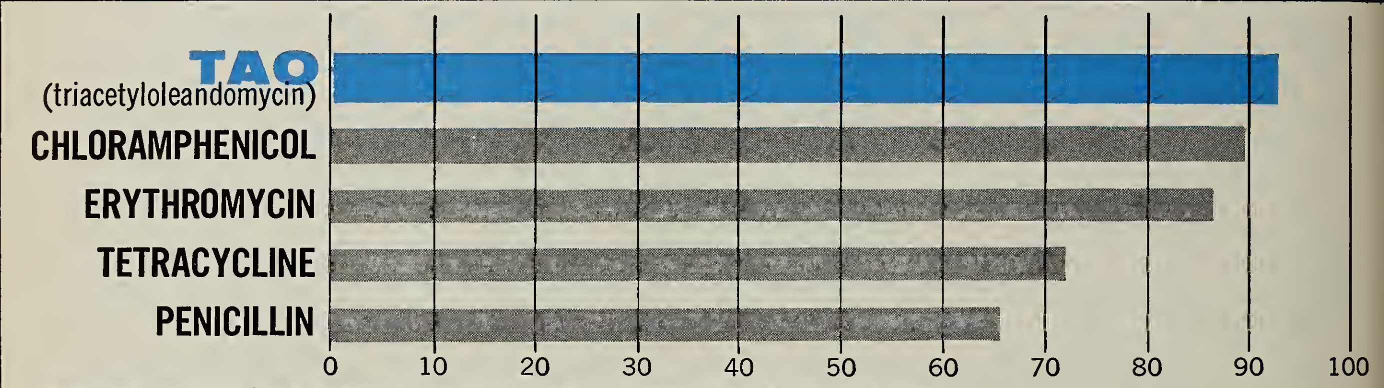
FIVE LEADING ANTIBIOTICS COMPARED IN VITRO AGAINST CLINICAL ISOLATES FROM EAR, NOSE, THROAT AND RESPIRATORY TRACT[1]



Results from overt clinical infections isolated from ear, nose, throat and respiratory tract. Percentage of cultures reported susceptible in 3,643 clinical isolates of staphylococci (1610), streptococci (beta-hemolytic) (957), pneumococci (1010), and enterococci (66).

Indications: The bacterial spectrum for which TAO (triacetyloleandomycin) primarily is effective includes staphylococci, streptococci, pneumococci and gonococci. It is recommended for acute severe infections where adequate sensitivity testing has demonstrated susceptibility to this antibiotic. It has been shown to be particularly effective in acute, severe infections of the respiratory tract, bones and joints, genitourinary tract and in staphylococcal enterocolitis. It is not recommended for prophylaxis or in the management of infectious processes which may require more than 10 days continuous therapy. In view of the possible hepatotoxicity of this drug, when therapy beyond 10 days proves necessary, other less toxic agents, of course, should be used unless the organism is resistant to those agents, or in those cases where hypersensitivity precludes their use. If clinical judgment dictates continuation of therapy for longer periods, serial monitoring of liver profile is recommended, including BSP, transaminase (SGOT) and cephalin flocculation tests.

Precautions and side effects: Use of this drug may produce alterations in liver function tests and jaundice. Clinical experience available thus far indicates that these liver changes were reversible following discontinuation of the drug. A review of studies by several independent investigators and reports from practicing physicians indicate that liver function abnormalities may occur in a significant number of patients following two weeks or more of continuous therapy with triacetyloleandomycin at 1.0 gram per day in divided doses. Clinical symptomatology, including jaundice, has been observed infrequently in these individuals. The drug is not recommended for subjects who have shown abnormal liver function tests or hepatotoxic reactions to it. Based upon the use of this drug over a period exceeding 5 years, the incidence of jaundice considering all reports referable to this effect is 6.3 per million courses of therapy. When only those which definitely can be related to this drug are equated to usage, the incidence is 1.8 per million courses of treatment.

Although reactions of an allergic nature due to this drug are infrequent and seldom severe, those of the anaphylactoid type have occurred on rare occasions.

The 1963 antibiotics survey provides a nationwide comparison of microbial susceptibility to 5 leading antibiotics. In all, susceptibility results of 9,331 cultures were obtained from 66 hospitals in 26 states. Results were analyzed and tabulated by electronic data processing equipment.

By this method, analysis of results in clinical isolates from ear, nose, throat and respiratory tract were determined. These in vitro findings indicate the overall superiority of TAO (triacetyloleandomycin) over other leading antibiotics in these common infections.

Clinical reports confirm its usefulness. As an example, Shubin[2] found that of 129 patients with upper or lower respiratory infections treated with TAO (triacetyloleandomycin), 120 had a good response. A "good" response generally showed "reduction in temperature and toxicity within 48 hours after initiation of therapy, with subsequent clinical and bacteriological cure of infection."

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References: 1. Isenberg, Henry D., Ph.D.: Scientific Exhibit presented at the meeting of the American Medical Association, Atlantic City, New Jersey, June 16-20, 1963. 2. Shubin, H. et al: Antibiotic Med. and Clin. Ther. 6:156 (March) 1959.

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"Likes Marry Likes," Study Indicates

(Continued from Page 61)

unique, or if they epitomize what may now be a relatively common level of adaptation in the population at large," the researchers said.

At the same time, the authors said, they had "mixed feelings" on the subject.

"Such a population would promote stability or a firm backbone of the country; but as observed of the previously described men, these couples' lives seem essentially mundane and dull," they said.

"Our data indicates, however, that this sample of husbands and wives, with a high order of consistency, experience what we consider some of life's deepest and most meaningful pleasures: in their stable relationships with each other, and in raising their children. The inference could be made that constricted interests permit such subjects a wider opportunity for the meaningful rewards of family life.

"A more stimulating educational experience and more enlightened media of mass communication, it is our hope, will enrich such 'normal' people's lives without sacrificing their essentially sound adjustment."

Appendicitis Caused by Swallowed Pin

Swallowing a pin or other sharp object can cause appendicitis but this is a rare complication, according to Dr. C. Herbert Fredell, Flagstaff, Ariz.

Dr. Fredell reported the case of an 11-year-old boy who was found to have a perforated appendix and peritonitis eight days after swallowing a straight pin. X-rays showed the pin lodged in the appendix with the sharp end protruding through the perforation, according to the report in the February *Archives of Surgery,* published by the American Medical Association.

The surgeon said it was a case of a relatively common occurrence developing an uncommon complication. Usually, he said, swallowed objects are passed through the gastrointestinal tract without complication.

This case emphasizes the merit of close observation of any patient who swallows an object, Dr. Fredell advised. If the object has a sharp point, he said, it is imperative that the surgeon be ready to intervene at the earliest sign of a complication.

In the first successful appendectomy recorded, performed by Claudius Amyand in 1735, the cause of the perforation of the appendix was thought to be a pin encrusted with stone in the appendix, Dr. Fredell added.

THE NASAL HUMP PROBLEM—S. Fomon et al. (307 Second Ave., New York). Arch. Otolaryn. 79:164 (Feb.) 1964.

The problems arising in hump removal are discussed, and a differentiation is made between the illusory and actual hump. Factors over which the surgeon has no control are mentioned. A method for obtaining the precise level at which the hump is to be excised is outlined.

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William F. Quinn, Los Angeles (Chmn.)	1966
Helen B. Weyrauch, San Francisco	1966

CONSULTANT:
Ralph W. Weilerstein, Berkeley

Committee on Veterans Affairs

Milo A. Youel, San Diego	1964
Charles B. Hudson, Oakland (Chmn.)	1965
Ben D. A. Miano, San Bernardino	1966

* * *

COMMISSION ON *Community Health Services*

Gerald G. Jampolsky, Belvedere	1964
Robert W. Purvis, Modesto	1964
Leopold J. Snyder, Fresno	1964
Justin J. Stein, Los Angeles	1964
Packard Thurber, Jr., Los Angeles	1965
Joseph F. Maguire, Ventura	1965
Llewellyn E. Wilson, Anaheim (Secy.)	1965
Harold Kay, Oakland (Chmn.)	1966
Charles G. Hutter, Jr., Hollywood	1966

Committee on Rural Health

James J. Benn, Jr., Ripon	1964
Anton J. Sambuck, Watsonville	1964
Carrol W. Goss, Lamont	1965
Leopold J. Snyder, Fresno (Chmn.)	1965
Francis N. Hatch, Modesto	1966
John R. Heckman, Marysville	1966

Committee on School Health

B. Otis Cobb, Concord	1964
Gerald G. Jampolsky, Tiburon (Chmn.)	1964
John Kenney, Santa Rosa	1964
William A. Leovy, La Mesa	1965
J. H. Nelson, Ojai	1965
Deane Adams, San Jose	1966
Joseph W. St. Geme, Los Angeles	1966

CONSULTANT:
Ruth A. Frary, Watsonville

Committee on Occupational Health

Herbert J. Kirchner, Los Angeles	1964
James D. Ryan, San Francisco	1964
John H. Leimbach, Jr., San Francisco	1964
Edward Zaik, Los Angeles	1965
Edward P. Luongo, Los Angeles	1965
Packard Thurber, Jr., Los Angeles (Chmn.)	1965
Walter J. Gillogley, Belmont	1966
Elizabeth Austin, Los Angeles	1966

Committee on Disaster Medical Care

Charles C. Henderson, San Mateo	1964
Justin J. Stein, Los Angeles (Chmn.)	1964
Wayne P. Chesbro, Berkeley	1965
Rob H. Kirkpatrick, Sacramento	1965
J. T. McNally, Stockton	1966
John Heald, San Francisco	1966

CONSULTANT:
Frank F. Schade, Los Angeles

Committee on Traffic Safety

George G. Snively, Sacramento	1964
B. G. Stewart, Bakersfield	1964
William S. Cappeller, San Francisco	1965
Arnold R. Friesen, Pasadena	1965
Joseph F. Maguire, Ventura (Chmn.)	1966
Thomas W. Lyons, La Mesa	1966

EX-OFFICIO: Irma West, Berkeley

Committee on Medical Aspects of Sports

Charles Aronberg, Los Angeles	1964
John F. Blinn, Stockton	1964
George S. Buehler, Whittier	1965
Robert F. Palmer, San Francisco	1965
Charles G. Hutter, Hollywood (Chmn.)	1966

CONSULTANTS:
Mr. Everett Bannister, Orange
Raymond R. Kauffman, San Mateo
William A. Leovy, La Mesa

Committee on Blood Banks

Elmer R. Jennings, Long Beach	1964
Robert W. Purvis, Modesto (Chmn.)	1964
Owen Thomas, Santa Rosa	1964

Committee on Allied Health Agencies

Robert L. Smith, Jr., San Francisco	1964
Thomas W. Ledwich, Napa	1965
Harold Kay, Oakland (Chmn.)	1966

* * *

BUREAU ON *Communications*

Warren L. Bostick, San Rafael (Chmn.)	1964
Elmer Gooel, Beverly Hills	1964
John B. Schaupp, San Francisco	1964
Malcolm C. Todd, Long Beach (Secy.)	1964
Walter W. Hopps, Los Angeles	1964
Samuel R. Sherman, San Francisco	1964
James C. Doyle, Beverly Hills	1964
Carl E. Anderson, Santa Rosa	1964

CONSULTANTS:
Robert T. Plumb, San Diego
Mr. Robert L. Wood, Representative, MEC
San Mateo
James R. Powell, Stockton

* * *

COMMISSION ON *Professional Welfare*

Arthur A. Kirchner, Los Angeles	1964
J. Norman O'Neill, Los Angeles (Secy.)	1964
Leo J. Adelstein, Los Angeles	1965
Dan Tucker, Oakland	1965
Edward Liston, Palo Alto	1965
Bert L. Halter, San Francisco	1966
George K. Herzog, Jr., San Francisco (Chmn.)	1966

Committee on Health and Accident Insurance

Arthur A. Kirchner, Los Angeles	1964
John F. Merritt, Santa Barbara	1964
Robert J. Westcott, El Centro	1964
George K. Herzog, Jr., San Francisco (Chmn.)	1965
T. W. Loring, Eureka	1965
Homer C. Pheasant, Los Angeles	1966

Medical Review and Advisory Board

Eugene M. Webb, San Francisco	1964
James Yant, Sacramento	1964
Leo J. Adelstein, Los Angeles (Chmn.)	1965
Donald E. Ross, Los Angeles	1965
Donald Donisthorpe, Los Angeles	1966

CONSULTANT:
Arthur A. Kirchner, Los Angeles

Committee on Private Practice of Medicine by Medical School Faculty Members

Robert J. Prentiss, San Diego	1964
Eldon E. Smith, Santa Monica	1964
Frank J. Novak, San Mateo	1965
Victor Kovner, Los Angeles	1965
Bert L. Halter, San Francisco (Chmn.)	1966

* * *

BUREAU OF *Research and Planning*

John J. Sheehy, Riverside	1964
Burt L. Davis, Palo Alto	1964
H. Russell Fisher, Glendale	1964
James R. Powell, Stockton (Secy.)	1965
T. Eric Reynolds, Oakland	1965
Gerald W. Shaw, Santa Monica (Chmn.)	1965
Franklin F. Ham, Van Nuys	1966
John T. Saidy, San Mateo	1966

EX-OFFICIO:
Samuel R. Sherman, San Francisco
James C. Doyle, Beverly Hills
Carl E. Anderson, Santa Rosa

Judicial COMMISSION

Donald A. Charnock, Los Angeles (Chmn.)	1964
Albert E. Long, San Francisco	1964
Arlo A. Morrison, Ventura	1964
Floyd O. Due, Oakland	1965
Sidney J. Shipman, San Francisco	1965
Francis E. West, San Diego	1965
Douglas G. Campbell, San Francisco	1966
W. Philip Corr, Riverside (Secy.)	1966
L. E. Wilson, Anaheim	1966

* * *

Scientific Board

William W. Belford, San Diego	1964
Jerome W. Bettman, San Francisco	1964
John B. Dillon, Los Angeles	1964
L. Henry Garland, San Francisco	1964
Charles E. Grayson, Sacramento	1964
Don King, San Francisco	1964
Clayton Loosli, Los Angeles	1964
Lowell A. Rantz, Palo Alto	1964
Victor Richards, San Francisco	1964
David Rubin, Los Angeles	1964
Keith P. Russell, Los Angeles	1964
Packard Thurber, Jr., Los Angeles	1964
Lewis T. Bullock, Los Angeles	1965
Albert C. Daniels, San Francisco	1965
Knox H. Finley, San Francisco	1965
Walter E. Heck, San Francisco	1965
Herbert A. Holden, San Leandro	1965
Edmund L. Keeney, La Jolla	1965
Stuart C. Knox, Hollywood	1965
William P. Longmire, Jr., Los Angeles	1965
J. G. Moore, Los Angeles	1965
Telfer B. Reynolds, Los Angeles	1965
Saul J. Robinson, San Francisco	1965
John B. deC. M. Saunders, San Francisco	1965
David A. Wood, San Francisco	1965
Grace B. Bell, Los Angeles	1966
Gerson R. Biskind, San Francisco	1966
Leland B. Blanchard, San Jose	1966
Eugene M. Farber, Palo Alto	1966
A. J. Franzi, San Francisco	1966
L. S. Goerke, Los Angeles	1966
George C. Griffith, Los Angeles	1966
Joseph J. Kaufman, Los Angeles	1966
Alonzo J. Neufeld, Los Angeles	1966
Donald W. Petit, Pasadena	1966
Paul C. Samson, Oakland	1966
Edward B. Shaw, San Francisco (Chmn.)	1966
Malcolm S. M. Watts, San Francisco	1966

EX-OFFICIO: Dwight L. Wilbur, San Francisco

Executive Committee

William W. Belford, San Diego	1964
L. Henry Garland, San Francisco	1964
Clayton G. Loosli, Los Angeles	1964
Victor Richards, San Francisco	1964
Lewis T. Bullock, Los Angeles	1965
Albert C. Daniels, San Francisco	1965
Edward B. Shaw, San Francisco (Chmn.)	1966
George C. Griffith, Los Angeles	1966
Malcolm S. M. Watts, San Francisco	1966

EX-OFFICIO: Dwight L. Wilbur, San Francisco

Committee on Scientific Assemblies

Victor Richards, San Francisco (Chmn.)	1964
John B. Dillon, Los Angeles	1964
Lowell A. Rantz, Palo Alto	1964
Albert C. Daniels, San Francisco	1965
William P. Longmire, Jr., Los Angeles	1965
J. G. Moore, Los Angeles	1965
Telfer B. Reynolds, Los Angeles	1965
J. B. deC. M. Saunders, San Francisco	1965
George C. Griffith, Los Angeles	1966

Committee on CALIFORNIA MEDICINE

Don King, San Francisco	1964
Clayton G. Loosli, Los Angeles (Chmn.)	1964
David Rubin, Los Angeles	1964
Grace B. Bell, Los Angeles	1966
Eugene M. Farber, Palo Alto	1966

Committee on Nominations

William W. Belford, San Diego	1964
William P. Longmire, Jr., Los Angeles	1965
Malcolm S. M. Watts, San Francisco (Chmn.)	1966

Continuing Medical Education

Victor Richards, San Francisco	1964
Albert C. Daniels, San Francisco (Chmn.)	1965
A. J. Franzi, San Francisco	1966
Alonzo J. Neufeld, Los Angeles	1966
Donald W. Petit, Pasadena	1966

Scientific Information

L. Henry Garland, San Francisco (Chmn.)	1964
Edmund L. Keeney, La Jolla	1965
Stuart C. Knox, Hollywood	1965
Gerson R. Biskind, San Francisco	1966
L. S. Goerke, Los Angeles	1966

Committee on Maternal and Child Care

Russell W. Mapes, Beverly Hills	1964
Keith P. Russell, Los Angeles (Chmn.)	1964
Charles M. Blumenfeld, Sacramento	1965
Herbert A. Holden, San Leandro	1965
Saul J. Robinson, San Francisco	1965
Leland B. Blanchard, San Jose	1966
James W. Ravenscroft, San Diego	1966

Committee on Cancer

John W. Cline, San Francisco	1964
Sol R. Baker, Beverly Hills	1965
Walter E. Heck, San Francisco	1965
John G. Walsh, Sacramento	1965
David A. Wood, San Francisco (Chmn.)	1965
Burt L. Davis, Palo Alto	1966
Paul C. Samson, Oakland	1966

SUB-COMMITTEES, COMMITTEE ON CANCER:

Committee on Cancer Education

Sol R. Baker, Beverly Hills (Chmn.)	1964
Paul H. Deeb, Loma Linda	1964
Werner Duemling, San Diego	1964
Byron Hall, San Francisco	1964
Robert W. Jamplis, Palo Alto	1964

Committee on Tumor Tissue Registry

E. M. Butt, Los Angeles	1964
John W. Cline, San Francisco (Chmn.)	1964
Lewis W. Guiss, Los Angeles	1964
James E. Kahler, Los Angeles	1964
Carl M. McCandless, San Francisco	1964

Committee on Consultative Tumor Boards

Bert L. Halter, San Francisco	1964
Walter E. Heck, San Francisco (Chmn.)	1964
Carl L. Moore, Bakersfield	1964
Otto Pflueger, San Francisco	1964
Victor Richards, San Francisco	1964

Committee on New and Unproved Methods of Cancer Treatment

Dexter T. Ball, Santa Ana	1964
L. Henry Garland, San Francisco	1964
Paul C. Samson, Oakland (Chmn.)	1964
Ray Seavers, Jr., San Bernardino	1964
Jerome A. Weinbaum, Chico	1964

CONSULTANT:
Kenneth F. Ernst, Berkeley

* * *

Finance COMMITTEE

Donald M. Campbell, San Francisco
James W. Dalton, Santa Barbara
Burt L. Davis, Palo Alto (Chmn.)
John F. Murray, Fresno
J. Norman O'Neill, Los Angeles

* * *

COMMITTEE ON *Legislation*

Dan O. Kilroy, Sacramento (Chmn.)
Stuart C. Knox, Los Angeles
Samuel R. Sherman, San Francisco

* * *

Special COMMITTEES

Benevolence Fund Operation Committee

Clyde L. Boice, Palo Alto
Ford P. Cady, Los Angeles (Chmn.)
Alexander Fraser, San Francisco
Elizabeth Mason Hohl, Los Angeles
Don C. Musser, San Francisco
George Wolf, Fresno

Auxiliary Advisory Board

Samuel R. Sherman, San Francisco
James C. Doyle, Beverly Hills
Matthew N. Hosmer, San Francisco
Franklin F. Ham, Van Nuys
John Morrison, San Leandro

Officers of Scientific Sections

Members who contemplate presentation of scientific papers should promptly address the secretary of the proper section at the address shown below.

Allergy

Walter R. MacLaren..........Chairman
696 East Colorado Boulevard, Pasadena 91101
Leo R. Melcher..........Secretary
150 Arch Street, Redwood City 94062
John S. O'Toole..........Assistant Secretary
3616 Main Street, Riverside 92501

Anesthesiology

James S. West..........Chairman
Box 8914, Los Angeles 90056
Gordon C. Langsdorf..........Secretary
6580 Avenida Mirola, La Jolla 92037
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439 30th Street, Oakland 94609

Dermatology and Syphilology

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Norman E. Levan..........Secretary
USC School of Medicine, Rm. 10620, LACGH,
2025 Zonal Avenue, Los Angeles 90033
Robert G. Walton..........Assistant Secretary
1700 McHenry Village Way, Modesto 95350

Ear, Nose and Throat

William F. Baxter..........Chairman
762 Altos Oaks Drive, Los Altos 94022
Irwin Harris..........Secretary
4759 Hollywood Boulevard, Los Angeles 90027
Thomas L. Soss..........Assistant Secretary
333 North San Mateo Drive, San Mateo 94401

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James F. Kleckner..........Chairman
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Byron H. Demorest..........Secretary
5301 F Street, Sacramento 95819
Victor G. Fellows, Jr..........Assistant Secretary
595 Buckingham Way, San Francisco 94117

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Herbert Allen Holden..........Chairman
383 West Joaquin Avenue, San Leandro 94577
Merlin A. Hendrickson..........Secretary
238 North Riverside Avenue, Rialto 92376
Leland B. Blanchard..........Assistant Secretary
678 East Santa Clara Street, San Jose 95112

General Surgery

Frederic P. Shidler..........Chairman
1111 University Drive, Menlo Park 94027
Harry E. Peters, Jr..........Secretary
400 29th Street, Oakland 94609
David B. Sheldon..........Assistant Secretary
10911 Weyburn Avenue, Los Angeles 90024

Industrial Medicine and Surgery

Carl Edward Nemethi..........Chairman
5592 Santa Fe Avenue, Los Angeles 90058
C. Frederick Burton..........Secretary
478 30th Street, Oakland 94609
Rufus J. Walker..........Assistant Secretary
740 South Olive Street, Los Angeles 90014

Internal Medicine

Harney M. Cordua, Jr..........Chairman
2561 First Avenue, San Diego 92103
James H. Thompson..........Secretary
490 Post Street, San Francisco 94102
Walter P. Martin..........Assistant Secretary
211 Cherry Street, Long Beach 90802

Obstetrics and Gynecology

Leon P. Fox..........Chairman
303 North 15th Street, San Jose 95112
Ralph L. Hoffman..........Secretary
2111 Fifth Avenue, San Diego 92101
Karl L. Schaupp, Jr..........Assistant Secretary
490 Post Street, San Francisco 94102

Orthopedics

Edwin G. Bovill, Jr..........Chairman
U.C. Medical Center, San Francisco 94122
G. Wilbur Westin..........Secretary
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John F. Cowan..........Assistant Secretary
2243 Van Ness Avenue, San Francisco 94109

Pathology and Bacteriology

Richard O. Myers..........Chairman
15107 Van Owen Street, Van Nuys 91405
Melvin B. Black..........Secretary
St. Luke's Hospital, 1580 Valencia Street,
San Francisco 94110
William C. Herrick, Sr..........Assistant Secretary
233 A Street, San Diego 92101

Pediatrics

Lawrence E. Reck..........Chairman
2950 Sixth Avenue, San Diego 92103
Jack W. Bills..........Secretary
14914 Sherman Way, Van Nuys 91405
Leo S. Bell..........Assistant Secretary
36 North San Mateo Drive, San Mateo 94401

Physical Medicine

Frances Baker..........Chairman
1 Tilton Avenue, San Mateo 94401
O. Leonard Huddleston..........Secretary
1910 Ocean Front, Santa Monica 90405
Gregory Bard..........Assistant Secretary
U.C. Medical Center, San Francisco 94122

Preventive Medicine and Public Health

Herbert Bauer..........Chairman
Yolo County Health Dept., P.O. Box 532,
Woodland 95696
Morris L. Grover..........Secretary
100 North Garfield Avenue, Pasadena 91101
Anita E. Faverman..........Assistant Secretary
Alameda County Health Dept., 499 Fifth
Street, Oakland 94607

Psychiatry and Neurology

Henry S. Colony..........Chairman
411 30th Street, Oakland 94609
Allen J. Enelow..........Secretary
910 Via de la Paz, Pacific Palisades 90272
George Y. Abe..........Assistant Secretary
Metropolitan State Hospital, Norwalk 90650

Radiology

Walter Gaines..........Chairman
120 St. Matthews Avenue, San Mateo 94401
John L. Gwinn..........Secretary
Children's Hospital, 4614 Sunset Boulevard,
Los Angeles 90027
John C. Bennett..........Assistant Secretary
St. Mary's Hospital, 2200 Hayes Street,
San Francisco 94117

Urology

Henry Bodner..........Chairman
4911 Van Nuys Boulevard, Van Nuys 91403
Michael J. Feeney..........Secretary
3415 Sixth Avenue, San Diego 92103
Carl E. Burkland..........Assistant Secretary
5301 F Street, Sacramento 95819

Delegates and Alternates

TO THE AMERICAN MEDICAL ASSOCIATION

DELEGATES		ALTERNATES
Leopold H. Fraser, Richmond	(1963-1964)	Hartzell H. Ray, San Mateo
Arthur A. Kirchner, Los Angeles	(1963-1964)	Dudley M. Cobb, Los Angeles
Dwight L. Wilbur, San Francisco	(1963-1964)	Francis J. Cox, San Francisco
J. Norman O'Neill, Los Angeles	(1963-1964)	William F. Quinn, Los Angeles
J. Lafe Ludwig, Los Angeles	(1963-1964)	Harold Kay, Oakland
Burt L. Davis, Palo Alto	(1963-1964)	Leon P. Fox, San Jose
Arlo A. Morrison, Ventura	(1963-1964)	John G. Morrison, San Leandro
James E. Feldmayer, Exeter	(1963-1964)	Charles Grayson, Sacramento
O. W. Wheeler, Riverside	(1963-1964)	Wilbur Bailey, Los Angeles
Malcolm C. Todd, Long Beach	(1963-1964)	Alfred J. Murieta, Jr., Los Angeles
J. E. Vaughan, Bakersfield	(1963-1964)	Joseph P. O'Connor, Pasadena
Samuel R. Sherman, San Francisco	(1964-1965)	Albert G. Miller, San Mateo
Henry Gibbons, III, San Francisco	(1964-1965)	Robert Combs, San Francisco
John M. Rumsey, San Diego	(1964-1965)	Francis E. West, San Diego
Eugene F. Hoffman, Los Angeles	(1964-1965)	Edward H. Crane, Jr., Inglewood
Warren L. Bostick, San Rafael	(1964-1965)	Walter H. Brignoli, St. Helena
J. B. Price, Santa Ana	(1964-1965)	Donald C. Dodds, Oakland
Ralph C. Teall, Sacramento	(1964-1965)	Robb Smith, Orange Cove
James C. Doyle, Beverly Hills	(1964-1965)	Homer C. Pheasant, Los Angeles
Wilbur G. Rogers, Glendale	(1964-1965)	Carl M. Hadley, San Bernardino
Charles B. Hudson, Oakland	(1964-1965)	Robert L. Watson, Jr., Los Angeles

(Delegates and Alternates to the A. M. A. are elected for terms of two calendar years. Each office is scheduled for election at the Annual Session of the second year shown above.)

Other Organizations and Medical Schools

Board of Medical Examiners of the State of California

Secretary..........Raymond M. Wallerius
1021 O Street, Room A547, Sacramento 95814
San Francisco..........455 Golden Gate Ave.
Room 4184 94102
Los Angeles..........107 South Broadway 90012
Sacramento....1021 O Street, Room A547 95814

The Public Health League of California

Executive Secretary..........Ben H. Read
955 South Western Ave., Los Angeles 90006
Associate Executive Secretary..........E. E. Salisbury
693 Sutter Street, San Francisco 94102
San Francisco..........693 Sutter Street 94102
GRaystone 4-1061
Los Angeles..........955 South Western Ave. 90006
REpublic 1-6397

Department of Public Health of the State of California

Director..........Malcolm H. Merrill, M.D.
2151 Berkeley Way, Berkeley 94704
Berkeley..........2151 Berkeley Way 94704
THornwall 3-7900
Sacramento..........631 J Street 95814
HIckory 2-4711
Los Angeles..........703 State Building 90012
MAdison 0-2900

Medical Schools in California

University of California School of Medicine, Medical Center, San Francisco 94122. Dean: William O. Reinhardt, M.D.

Stanford University School of Medicine, 300 Pasteur Drive, Palo Alto 94304. Dean: Robert H. Alway, M.D.

University of Southern California School of Medicine, 2025 Zonal Avenue, Los Angeles 90033. Dean: Clayton G. Loosli, M.D.

Loma Linda University, School of Medicine, 1720 Brooklyn Avenue, Los Angeles 90033. Dean: David Burdg Hinshaw, M.D.

University of California at Los Angeles, School of Medicine, Hilgard Avenue, Los Angeles 90024. Dean: Sherman M. Mellinkoff, M.D.

California College of Medicine: 1721 Griffin Avenue, Los Angeles 90031. Dean: Warren L. Bostick, M.D.

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* Deceased

Roster — CALIFORNIA COMPONENT MEDICAL SOCIETIES

Society secretaries are requested to notify California Medicine promptly when changes are indicated in their roster information

ALAMEDA-CONTRA COSTA Medical Assn., 6230 Claremont Ave., Oakland 94618. Meets quarterly.
Paul H. Cronenwett..............................President
6230 Claremont Ave., Oakland 94618
J. Brandon Bassett..............................Secretary
2930 McClure St., Oakland 94609

BUTTE-GLENN Medical Society, P. O. Box 1008, Chico 95927. Meets Fourth Thursday.
Jay O. Gibson..............................President
170 E. 2nd Ave., Chico 95926
Dale W. Ritter..............................Secretary
6 Cohasset Circle, Chico 95926

FORTY FIRST Medical Society, 4775 Santa Monica Blvd., Los Angeles 90029.
Loron N. McGillis..............................President
11230 Magnolia Blvd., No. Hollywood 91601
Glenn F. Gordon..............................Secretary
1630 Del Valle Ave., Glendale 91208

FRESNO County Medical Society, 2155 Amador, Fresno 93721. Meets Second Tuesday, 6:30 p.m., Sunnyside Country Club.
Norman E. Tostenson..............................President
1223 Wishon Ave., Fresno 93728
Joseph B. Ford, Jr. ....Secretary
2940 Fresno St., Fresno 93721

HUMBOLDT-DEL NORTE County Medical Society. Meets Second Thursday.
Robert Devine..............................President
730 7th St., Eureka 95501
Wells Carey..............................Secretary
2822 E St., Eureka 95501

IMPERIAL County Medical Society. Meets Second Tuesday, 8 p.m., Pioneer Memorial Hospital, Brawley.
Nathan Wolf..............................President
126 Main St., Brawley 92227
Ernest Brock ....Secretary
200 S. Imperial Ave., Imperial 92251

INYO-MONO County Medical Society. Meets Fourth Tuesday except December, January, February.
D. L. Christenson..............................President
380 N. Mt. Whitney Dr., Lone Pine 93545
W. Ray Hartwig..............................Secretary
459 West Line, Bishop 93514

KERN County Medical Society, 2603 G Street, Bakersfield 93301. Meets Third Tuesday, 7:30 p.m., Society Office, 2603 G Street, except June, July, August.
Hans E. Einstein..............................President
2441 "G" St., Bakersfield 93301
Keith W. Spaulding..............................Secretary
2521 "G" St., Bakersfield 93301

KINGS County Medical Society. Meets Second Thursday, 7:00 p.m. Place to be announced.
Clyde Ball..............................President
1320 Whitley Ave., Corcoran 93212
Edwin E. Kerr..............................Secretary
208 N. Douty St., Hanford 93230

LASSEN-PLUMAS-MODOC-SIERRA County Medical Society. Meets on call.
Lloyd Shannon..............................President
P. O. Box 963, Alturas 96101
Robert Haggard..............................Secretary
Loyalton, 96118

LOS ANGELES County Medical Assn., 1925 Wilshire Blvd., Los Angeles 90057.
Elmer F. Gooel..............................President
1925 Wilshire Blvd., Los Angeles 90057
George C. Andersen..............................Secretary
1925 Wilshire Blvd., Los Angeles 90057

MARIN Medical Society, 1601 Second St., Suite 106, San Rafael 94901. Meets First Thursday, 7:00 p.m.
Calvin Plumhof..............................President
711 D St., San Rafael 94901
John McGee ....Secretary
712 D St., San Rafael 94901

MENDOCINO-LAKE County Medical Society.
Thomas Nicholson..............................President
408 W. Perkins St., Ukiah 95482
Patrick R. Allanson..............................Secretary
728 S. State St., Ukiah 95482

MERCED County Medical Society. Meets Fourth Thursday, Hotel Tioga, Merced.
James A. Parker..............................President
535 W. 26th St., Merced 95340
Patrick J. Maloney..............................Secretary
656 W. 20th St., Merced 95340

MONTEREY County Medical Society. P. O. Box 308, Salinas 93903. Meets First Thursday.
Osman H. Hull..............................President
716 Cass St., Monterey 93940
Joseph E. Turner..............................Secretary
1073 Cass St., Monterey 93940

NAPA County Medical Society. Meets Second Wednesday, P. O. Box 658, Napa 94559
E. Paul White, Jr...............................President
P. O. Box 658, Napa 94559
Richard Clark..............................Secretary
1054 Beard Rd., Napa 94558

ORANGE County Medical Association, 300 S. Flower, Orange 92666. Meets First Tuesday, 7:00 p.m.
Hugh J. Plumb, Jr. ....President
1901 Westcliff Dr., Newport Beach 92663
Laurance A. Mosier..............................Secretary
10510 Chapman St., Garden Grove 92640

PLACER-NEVADA County Medical Society. Meets Second Wednesday.
Clifford W. Wauters..............................President
701 High St., Auburn 95603
Arthur R. Weaver..............................Secretary
701 High St., Auburn 95603

RIVERSIDE County Medical Association, 4175 Brockton Ave., Riverside 92501. Meets Second Monday, 8:00 p.m., El Loro Room, Mission Inn.
William M. Kinney..............................President
4175 Brockton Ave., Riverside 92501
Richard W. Trotter..............................Secretary
4175 Brockton Ave., Riverside 92501

SACRAMENTO Society for Medical Improvement, 5380 Elvas Ave., Sacramento 95819. Meets Third Tuesday, 8:30 p.m., Sutter Hospital Auditorium.
L. Morgan Boyers..............................President
2615 Eye St., Sacramento 95816
James W. Martin..............................Secretary
5380 Elvas Ave., Sacramento 95819

SAN BENITO County Medical Society. Meets once a month, except July and August. Time and place to be announced.
Kent S. Taylor..............................President
345 5th St., Hollister 95023
Robert D. Quinn..............................Secretary
535 Monterey St., Hollister 95023

SAN BERNARDINO County Medical Society, 1875 N. D St., San Bernardino 92405. Meets First Tuesday, 7:30 p.m., Harold's Club, Fontana.
Merlin A. Hendrickson..............................President
238 N. Riverside Ave., Rialto 92376
Nicholas P. Krikes..............................Secretary
25060 Base Line, San Bernardino 92410

SAN DIEGO County Medical Society, 3427 - 4th Ave., San Diego 92103. Meets Second Tuesday. Location of meetings varies.
Walter R. Nickel..............................President
233 A St., San Diego 92101
Purvis L. Martin..............................Secretary
2105 5th Ave., San Diego 92101

SAN FRANCISCO Medical Society, 250 Masonic Ave., San Francisco 94118.
John B. Schaupp..............................President
250 Masonic Ave., San Francisco 94118
George K. Herzog, Jr...............................Secretary
250 Masonic Ave., San Francisco 94118

SAN JOAQUIN County Medical Society. Meets First Thursday, 8:15 p.m., 445 W. Acacia St., P. O. Box 230, Stockton 95201.
James J. Benn, Jr...............................President
P.O. Box 230, Stockton 95201
Dora A. Lee..............................Secretary
2420 N. California St., Stockton 95204

SAN LUIS OBISPO County Medical Society. Meets Third Saturday, 7:00 p.m., Anderson Hotel, San Luis Obispo 93402.
Richard W. Eells..............................President
743 Pismo St., San Luis Obispo 93401
Richard W. Cletsoway..............................Secretary
705 Grand Ave., San Luis Obispo 93402

SAN MATEO County Medical Society, 122 El Camino Real, San Mateo 94401. Meets Third Tuesday.
Ward L. Hart..............................President
100 Laurel Ave., San Carlos 94401
Howard W. Lindsey..............................Secretary
323 N. San Mateo Dr., San Mateo 94401

SANTA BARBARA County Medical Society, 300 W. Pueblo St., Santa Barbara 93105. Meets Second Monday of the month, University Club, 1332 Santa Barbara St., Santa Barbara.
H. L. Stewart, Jr...............................President
300 W. Pueblo St., Santa Barbara 93105
Thurman K. Hill..............................Secretary
300 W. Pueblo St., Santa Barbara 93105

SANTA CLARA County Medical Society, 1960 The Alameda, San Jose 95126. Meets First Monday.
S. Fred Kaufman..............................President
1960 The Alameda, San Jose 95126
Jacob M. Stone..............................Secretary
1960 The Almeda, San Jose 95126

SANTA CRUZ County Medical Society. Meets every Second Month, Second Tuesday. Time, place to be announced.
F. H. Koepke..............................President
850 Main St., Watsonville 95076
John W. Morris..............................Secretary
230 Walnut Ave., Santa Cruz 95060

SHASTA-TRINITY County Medical Society. Meets Second Monday of the month. Place to be announced.
Michael J. Hamilton..............................President
1348 Market St., Redding 96001
Robert G. Taylor..............................Secretary
1308 Court St., Redding 96001

SISKIYOU County Medical Society. Meets Sunday on call.
William D. Schnack..............................President
8 Main St., Weed 94096
Rand Apgood..............................Secretary
Medical Center Building, Yreka 96097

SOLANO County Medical Society. Meets Second Tuesday, 8:00 p.m., at different meeting places.
R. Matthew Gibbons..............................President
1200 Marin St., Vallejo 94590
John C. Miller..............................Secretary
410 Tennessee St., Vallejo 94590

SONOMA County Medical Society, 576 B Street, Santa Rosa 95401. Meets Second Thursday.
A. A. Thurlow, Jr. ....President
576 B St., Santa Rosa 95401
Tetsuro Fujii..............................Secretary
576 B St., Santa Rosa 95401

STANISLAUS County Medical Society, 303 Downey Ave., Modesto. Meets Third Tuesday of the month, 7 p.m., Hotel Covell, Modesto 95354.
John S. Woolley..............................President
808 13th St., Modesto 95354
Jeanne I. Miller..............................Secretary
709 - 18th St., Modesto 95354

TEHAMA County Medical Society. Meets at call of President.
G. W. Ingle..............................President
808 Almond St., Corning 96021
C. W. Winning..............................Secretary
530 Main St., Red Bluff 96080

TULARE County Medical Society, 1640 West Mineral King, P. O. Box 16, Visalia 93278.
James W. Goettle..............................President
424 E. Tulare Ave., Tulare 93274
Philip S. Barber..............................Secretary
P. O. Box 16, Visalia 93278

VENTURA County Medical Society. Meets Second Tuesday each month, 7:30 p.m., Los Posas Country Club, Camarillo.
Henry J. Rulfo..............................President
302 Glen Ellen Dr., Ventura 93003
F. K. Helbling..............................Secretary
3081 Loma Vista Rd., Ventura 93003

YOLO County Medical Society. Meets First Wednesday.
Spencer T. Chester..............................President
Woodland Clinic, Woodland 95675
Samuel C. Houston..............................Secretary
3 Court St., Woodland 95695

YUBA-SUTTER-COLUSA County Medical Society, 370 Del Norte Ave., Yuba City 95991. Meets Second Tuesday.
Robert H. Greeley..............................President
725 4th St., Marysville 95901
Norman K. Noordhoff..............................Secretary
320 G St., Marysville 95901

Officers of Scientific Sections

Members who contemplate presentation of scientific papers should promptly address the secretary of the proper section at the address shown below.

Allergy

Walter R. MacLaren..........Chairman
696 East Colorado Boulevard, Pasadena 91101
Leo R. Melcher..........Secretary
150 Arch Street, Redwood City 94062
John S. O'Toole..........Assistant Secretary
3616 Main Street, Riverside 92501

Anesthesiology

James S. West..........Chairman
Box 8914, Los Angeles 90056
Gordon C. Langsdorf..........Secretary
6580 Avenida Mirola, La Jolla 92037
Bruce M. Anderson..........Assistant Secretary
439 30th Street, Oakland 94609

Dermatology and Syphilology

Herbert L. Joseph..........Chairman
1516 Napa Street, Vallejo 94590
Norman E. Levan..........Secretary
USC School of Medicine, Rm. 10620, LACGH, 2025 Zonal Avenue, Los Angeles 90033
Robert G. Walton..........Assistant Secretary
1700 McHenry Village Way, Modesto 95350

Ear, Nose and Throat

William F. Baxter..........Chairman
762 Altos Oaks Drive, Los Altos 94022
Irwin Harris..........Secretary
4759 Hollywood Boulevard, Los Angeles 90027
Thomas L. Soss..........Assistant Secretary
333 North San Mateo Drive, San Mateo 94401

Eye

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Byron H. Demorest..........Secretary
5301 F Street, Sacramento 95819
Victor G. Fellows, Jr..........Assistant Secretary
595 Buckingham Way, San Francisco 94117

General Practice

Herbert Allen Holden..........Chairman
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Merlin A. Hendrickson..........Secretary
238 North Riverside Avenue, Rialto 92376
Leland B. Blanchard..........Assistant Secretary
678 East Santa Clara Street, San Jose 95112

General Surgery

Frederic P. Shidler..........Chairman
1111 University Drive, Menlo Park 94027
Harry E. Peters, Jr..........Secretary
400 29th Street, Oakland 94609
David B. Sheldon..........Assistant Secretary
10911 Weyburn Avenue, Los Angeles 90024

Industrial Medicine and Surgery

Carl Edward Nemethi..........Chairman
5592 Santa Fe Avenue, Los Angeles 90058
C. Frederick Burton..........Secretary
478 30th Street, Oakland 94609
Rufus J. Walker..........Assistant Secretary
740 South Olive Street, Los Angeles 90014

Internal Medicine

Harney M. Cordua, Jr..........Chairman
2561 First Avenue, San Diego 92103
James H. Thompson..........Secretary
490 Post Street, San Francisco 94102
Walter P. Martin..........Assistant Secretary
211 Cherry Street, Long Beach 90802

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303 North 15th Street, San Jose 95112
Ralph L. Hoffman..........Secretary
2111 Fifth Avenue, San Diego 92101
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490 Post Street, San Francisco 94102

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U.C. Medical Center, San Francisco 94122
G. Wilbur Westin..........Secretary
2300 South Hope Street, Los Angeles 90007
John F. Cowan..........Assistant Secretary
2243 Van Ness Avenue, San Francisco 94109

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Richard O. Myers..........Chairman
15107 Van Owen Street, Van Nuys 91405
Melvin B. Black..........Secretary
St. Luke's Hospital, 1580 Valencia Street, San Francisco 94110
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233 A Street, San Diego 92101

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2950 Sixth Avenue, San Diego 92103
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14914 Sherman Way, Van Nuys 91405
Leo S. Bell..........Assistant Secretary
36 North San Mateo Drive, San Mateo 94401

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Frances Baker..........Chairman
1 Tilton Avenue, San Mateo 94401
O. Leonard Huddleston..........Secretary
1910 Ocean Front, Santa Monica 90405
Gregory Bard..........Assistant Secretary
U.C. Medical Center, San Francisco 94122

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Herbert Bauer..........Chairman
Yolo County Health Dept., P.O. Box 532, Woodland 95696
Morris L. Grover..........Secretary
100 North Garfield Avenue, Pasadena 91101
Anita E. Faverman..........Assistant Secretary
Alameda County Health Dept., 499 Fifth Street, Oakland 94607

Psychiatry and Neurology

Henry S. Colony..........Chairman
411 30th Street, Oakland 94609
Allen J. Enelow..........Secretary
910 Via de la Paz, Pacific Palisades 90272
George Y. Abe..........Assistant Secretary
Metropolitan State Hospital, Norwalk 90650

Radiology

Walter Gaines..........Chairman
120 St. Matthews Avenue, San Mateo 94401
John L. Gwinn..........Secretary
Children's Hospital, 4614 Sunset Boulevard, Los Angeles 90027
John C. Bennett..........Assistant Secretary
St. Mary's Hospital, 2200 Hayes Street, San Francisco 94117

Urology

Henry Bodner..........Chairman
4911 Van Nuys Boulevard, Van Nuys 91403
Michael J. Feeney..........Secretary
3415 Sixth Avenue, San Diego 92103
Carl E. Burkland..........Assistant Secretary
5301 F Street, Sacramento 95819

Delegates and Alternates

TO THE AMERICAN MEDICAL ASSOCIATION

DELEGATES		ALTERNATES
Leopold H. Fraser, Richmond	(1963-1964)	Hartzell H. Ray, San Mateo
Arthur A. Kirchner, Los Angeles	(1963-1964)	Dudley M. Cobb, Los Angeles
Dwight L. Wilbur, San Francisco	(1963-1964)	Francis J. Cox, San Francisco
J. Norman O'Neill, Los Angeles	(1963-1964)	William F. Quinn, Los Angeles
J. Lafe Ludwig, Los Angeles	(1963-1964)	Harold Kay, Oakland
Burt L. Davis, Palo Alto	(1963-1964)	Leon P. Fox, San Jose
Arlo A. Morrison, Ventura	(1963-1964)	John G. Morrison, San Leandro
James E. Feldmayer, Exeter	(1963-1964)	Charles Grayson, Sacramento
O. W. Wheeler, Riverside	(1963-1964)	Wilbur Bailey, Los Angeles
Malcolm C. Todd, Long Beach	(1963-1964)	Alfred J. Murieta, Jr., Los Angeles
J. E. Vaughan, Bakersfield	(1963-1964)	Joseph P. O'Connor, Pasadena
Samuel R. Sherman, San Francisco	(1964-1965)	Albert G. Miller, San Mateo
Henry Gibbons, III, San Francisco	(1964-1965)	Robert Combs, San Francisco
John M. Rumsey, San Diego	(1964-1965)	Francis E. West, San Diego
Eugene F. Hoffman, Los Angeles	(1964-1965)	Edward H. Crane, Jr., Inglewood
Warren L. Bostick, San Rafael	(1964-1965)	Walter H. Brignoli, St. Helena
J. B. Price, Santa Ana	(1964-1965)	Donald C. Dodds, Oakland
Ralph C. Teall, Sacramento	(1964-1965)	Robb Smith, Orange Cove
James C. Doyle, Beverly Hills	(1964-1965)	Homer C. Pheasant, Los Angeles
Wilbur G. Rogers, Glendale	(1964-1965)	Carl M. Hadley, San Bernardino
Charles B. Hudson, Oakland	(1964-1965)	Robert L. Watson, Jr., Los Angeles

(Delegates and Alternates to the A. M. A. are elected for terms of two calendar years. Each office is scheduled for election at the Annual Session of the second year shown above.)

Other Organizations and Medical Schools

Board of Medical Examiners of the State of California

Secretary..........Raymond M. Wallerius
1021 O Street, Room A547, Sacramento 95814
San Francisco..........455 Golden Gate Ave.
Room 4184 94102
Los Angeles..........107 South Broadway 90012
Sacramento....1021 O Street, Room A547 95814

The Public Health League of California

Executive Secretary..........Ben H. Read
955 South Western Ave., Los Angeles 90006
Associate Executive Secretary..........E. E. Salisbury
693 Sutter Street, San Francisco 94102
San Francisco..........693 Sutter Street 94102
GRaystone 4-1061
Los Angeles..........955 South Western Ave. 90006
REpublic 1-6397

Department of Public Health of the State of California

Director..........Malcolm H. Merrill, M.D.
2151 Berkeley Way, Berkeley 94704
Berkeley..........2151 Berkeley Way 94704
THornwall 3-7900
Sacramento..........631 J Street 95814
HIckory 2-4711
Los Angeles..........703 State Building 90012
MAdison 0-2900

Medical Schools in California

University of California School of Medicine, Medical Center, San Francisco 94122. Dean: William O. Reinhardt, M.D.

Stanford University School of Medicine, 300 Pasteur Drive, Palo Alto 94304. Dean: Robert H. Alway, M.D.

University of Southern California School of Medicine, 2025 Zonal Avenue, Los Angeles 90033. Dean: Clayton G. Loosli, M.D.

Loma Linda University, School of Medicine, 1720 Brooklyn Avenue, Los Angeles 90033. Dean: David Burdg Hinshaw, M.D.

University of California at Los Angeles, School of Medicine, Hilgard Avenue, Los Angeles 90024. Dean: Sherman M. Mellinkoff, M.D.

California College of Medicine: 1721 Griffin Avenue, Los Angeles 90031. Dean: Warren L. Bostick, M.D.

• Deceased

Roster — CALIFORNIA COMPONENT MEDICAL SOCIETIES

Society secretaries are requested to notify California Medicine promptly when changes are indicated in their roster information

ALAMEDA-CONTRA COSTA Medical Assn., 6230 Claremont Ave., Oakland 94618. Meets quarterly.
Paul H. Cronenwett..........President
6230 Claremont Ave., Oakland 94618
J. Brandon Bassett..........Secretary
2930 McClure St., Oakland 94609

BUTTE-GLENN Medical Society, P. O. Box 1008, Chico 95927. Meets Fourth Thursday.
Jay O. Gibson..........President
170 E. 2nd Ave., Chico 95926
Dale W. Ritter..........Secretary
6 Cohasset Circle, Chico 95926

FORTY FIRST Medical Society, 4775 Santa Monica Blvd., Los Angeles 90029.
Loron N. McGillis..........President
11230 Magnolia Blvd., No. Hollywood 91601
Glenn F. Gordon..........Secretary
1630 Del Valle Ave., Glendale 91208

FRESNO County Medical Society, 2155 Amador, Fresno 93721. Meets Second Tuesday, 6:30 p.m., Sunnyside Country Club.
Norman E. Tostenson..........President
1223 Wishon Ave., Fresno 93728
Joseph B. Ford, Jr. ....Secretary
2940 Fresno St., Fresno 93721

HUMBOLDT-DEL NORTE County Medical Society. Meets Second Thursday.
Robert Devine..........President
730 7th St., Eureka 95501
Wells Carey..........Secretary
2822 E St., Eureka 95501

IMPERIAL County Medical Society. Meets Second Tuesday, 8 p.m., Pioneer Memorial Hospital, Brawley.
Nathan Wolf..........President
126 Main St., Brawley 92227
Ernest Brock ....Secretary
200 S. Imperial Ave., Imperial 92251

INYO-MONO County Medical Society. Meets Fourth Tuesday except December, January, February.
D. L. Christenson..........President
380 N. Mt. Whitney Dr., Lone Pine 93545
W. Ray Hartwig..........Secretary
459 West Line, Bishop 93514

KERN County Medical Society, 2603 G Street, Bakersfield 93301. Meets Third Tuesday, 7:30 p.m., Society Office, 2603 G Street, except June, July, August.
Hans E. Einstein..........President
2441 "G" St., Bakersfield 93301
Keith W. Spaulding..........Secretary
2521 "G" St., Bakersfield 93301

KINGS County Medical Society. Meets Second Thursday, 7:00 p.m. Place to be announced.
Clyde Ball..........President
1320 Whitley Ave., Corcoran 93212
Edwin E. Kerr..........Secretary
208 N. Douty St., Hanford 93230

LASSEN-PLUMAS-MODOC-SIERRA County Medical Society. Meets on call.
Lloyd Shannon..........President
P. O. Box 963, Alturas 96101
Robert Haggard..........Secretary
Loyalton, 96118

LOS ANGELES County Medical Assn., 1925 Wilshire Blvd., Los Angeles 90057.
Elmer F. Gooel..........President
1925 Wilshire Blvd., Los Angeles 90057
George C. Andersen..........Secretary
1925 Wilshire Blvd., Los Angeles 90057

MARIN Medical Society, 1601 Second St., Suite 106, San Rafael 94901. Meets First Thursday, 7:00 p.m.
Calvin Plumhof..........President
711 D St., San Rafael 94901
John McGee ....Secretary
712 D St., San Rafael 94901

MENDOCINO-LAKE County Medical Society.
Thomas Nicholson..........President
408 W. Perkins St., Ukiah 95482
Patrick R. Allanson..........Secretary
728 S. State St., Ukiah 95482

MERCED County Medical Society. Meets Fourth Thursday, Hotel Tioga, Merced.
James A. Parker..........President
535 W. 26th St., Merced 95340
Patrick J. Maloney..........Secretary
656 W. 20th St., Merced 95340

MONTEREY County Medical Society. P. O. Box 308, Salinas 93903. Meets First Thursday.
Osman H. Hull..........President
716 Cass St., Monterey 93940
Joseph E. Turner..........Secretary
1073 Cass St., Monterey 93940

NAPA County Medical Society. Meets Second Wednesday, P. O. Box 658, Napa 94559
E. Paul White, Jr. ....President
P. O. Box 658, Napa 94559
Richard Clark..........Secretary
1054 Beard Rd., Napa 94558

ORANGE County Medical Association, 300 S. Flower, Orange 92666. Meets First Tuesday, 7:00 p.m.
Hugh J. Plumb, Jr. ....President
1901 Westcliff Dr., Newport Beach 92663
Laurance A. Mosier..........Secretary
10510 Chapman St., Garden Grove 92640

PLACER-NEVADA County Medical Society. Meets Second Wednesday.
Clifford W. Wauters..........President
701 High St., Auburn 95603
Arthur R. Weaver..........Secretary
701 High St., Auburn 95603

RIVERSIDE County Medical Association, 4175 Brockton Ave., Riverside 92501. Meets Second Monday, 8:00 p.m., El Loro Room, Mission Inn.
William M. Kinney..........President
4175 Brockton Ave., Riverside 92501
Richard W. Trotter..........Secretary
4175 Brockton Ave., Riverside 92501

SACRAMENTO Society for Medical Improvement, 5380 Elvas Ave., Sacramento 95819. Meets Third Tuesday, 8:30 p.m., Sutter Hospital Auditorium.
L. Morgan Boyers..........President
2615 Eye St., Sacramento 95816
James W. Martin..........Secretary
5380 Elvas Ave., Sacramento 95819

SAN BENITO County Medical Society. Meets once a month, except July and August. Time and place to be announced.
Kent S. Taylor..........President
345 5th St., Hollister 95023
Robert D. Quinn..........Secretary
535 Monterey St., Hollister 95023

SAN BERNARDINO County Medical Society, 1875 N. D St., San Bernardino 92405. Meets First Tuesday, 7:30 p.m., Harold's Club, Fontana.
Merlin A. Hendrickson..........President
238 N. Riverside Ave., Rialto 92376
Nicholas P. Krikes..........Secretary
25060 Base Line, San Bernardino 92410

SAN DIEGO County Medical Society, 3427 - 4th Ave., San Diego 92103. Meets Second Tuesday. Location of meetings varies.
Walter R. Nickel..........President
233 A St., San Diego 92101
Purvis L. Martin..........Secretary
2105 5th Ave., San Diego 92101

SAN FRANCISCO Medical Society, 250 Masonic Ave., San Francisco 94118.
John B. Schaupp..........President
250 Masonic Ave., San Francisco 94118
George K. Herzog, Jr..........Secretary
250 Masonic Ave., San Francisco 94118

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Richard W. Cletsoway..........Secretary
705 Grand Ave., San Luis Obispo 93402

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Howard W. Lindsey..........Secretary
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410 Tennessee St., Vallejo 94590

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576 B St., Santa Rosa 95401
Tetsuro Fujii..........Secretary
576 B St., Santa Rosa 95401

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808 13th St., Modesto 95354
Jeanne I. Miller..........Secretary
709 - 18th St., Modesto 95354

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808 Almond St., Corning 96021
C. W. Winning..........Secretary
530 Main St., Red Bluff 96080

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424 E. Tulare Ave., Tulare 93274
Philip S. Barber..........Secretary
P. O. Box 16, Visalia 93278

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302 Glen Ellen Dr., Ventura 93003
F. K. Helbling..........Secretary
3081 Loma Vista Rd., Ventura 93003

YOLO County Medical Society. Meets First Wednesday.
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Woodland Clinic, Woodland 95675
Samuel C. Houston..........Secretary
3 Court St., Woodland 95695

YUBA-SUTTER-COLUSA County Medical Society, 370 Del Norte Ave., Yuba City 95991. Meets Second Tuesday.
Robert H. Greeley..........President
725 4th St., Marysville 95901
Norman K. Noordhoff..........Secretary
320 G St., Marysville 95901

Officers — CALIFORNIA PHYSICIANS' SERVICE — 1963-64

Officers:

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Vice-Chairman of the Board	Burt L. Davis
President	T. Eric Reynolds
Secretary	John E. Vaughan
Assistant Secretary	Warren L. Bostick
Treasurer	Angus C. McDonald
Assistant Treasurer	Mr. John Cowee

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Carl E. Horn	Sacramento
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Angus C. McDonald	Huntington Park
Gregory C. Murray	Los Angeles
Wilbur G. Rogers*	Glendale
Herman H. Stone	Riverside
William H. Thompson	San Mateo
Stanley R. Truman	Oakland
John E. Vaughan	Bakersfield
Milo A. Youel	San Diego

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William H. Thompson, Vice-Chairman	San Mateo
Mr. John Cowee	Berkeley
James W. Dalton	Santa Barbara
Donald C. Harrington	Stockton
Gregory C. Murray	Los Angeles
Stanley R. Truman	Oakland
Milo A. Youel	San Diego

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Carl E. Horn	Sacramento
Herman H. Stone	Riverside
T. Eric Reynolds†	Oakland
Donald Fitch†	Glendale

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Burt L. Davis, Vice-Chairman	Palo Alto
Warren L. Bostick	San Rafael
Mr. Thomas Hadfield	San Francisco
Angus C. McDonald	Huntington Park
Milo A. Youel	San Diego

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Stanley R. Truman, Vice-Chairman	Oakland
James W. Dalton	Santa Barbara
Donald C. Harrington	Stockton
Gregory C. Murray	Los Angeles
William H. Thompson	San Mateo
John E. Vaughan	Bakersfield
Robert Day†	Bakersfield

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Mr. John Cowee, Vice-Chairman	Berkeley
Mr. Ransom Cook	San Francisco
Burt L. Davis	Palo Alto
Mr. Thomas Hadfield	San Francisco
Mr. Philip S. Magruder	Pasadena
Wilbur G. Rogers	Glendale
Bert Halter†	San Francisco
John G. Morrison†	San Leandro

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Warren L. Bostick, Chairman	San Rafael
Herman H. Stone, Vice-Chairman	Riverside
Carl E. Horn	Sacramento
Angus C. McDonald	Huntington Park
Wilbur G. Rogers	Glendale
John E. Vaughan	Bakersfield
M. M. Haskell†	Long Beach
John I. McGirr, Jr.†	Encino
Roger W. Barnes†	Los Angeles
Thomas W. McIntosh†	Pasadena
Robert McVann†	Pasadena

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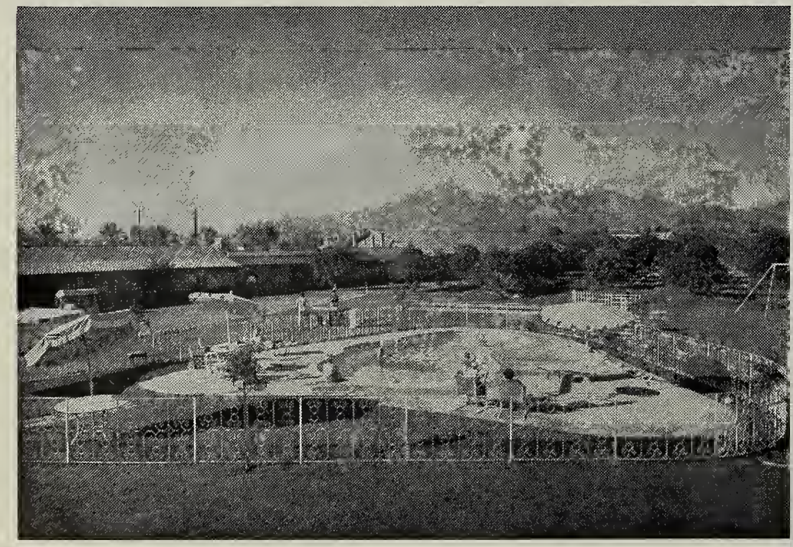
*Appointed by C.M.A. Council.

†Non-Trustee Members.



Located in the heart of the beautiful Phoenix citrus area near picturesque Camelback Mountain, the hospital is dedicated exclusively to the treatment of psychiatric and psychosomatic disorders, including alcoholism.

Approved by the Joint Commission on Accreditation of Hospitals; and The American Psychiatric Association

This beautiful, heated swimming pool highlights the spacious lawn and recreation area at Camelback Hospital. Other outdoor activities include volley ball, ping pong, shuffleboard and badminton, all under the supervision of a trained therapist. Those preferring restful relaxation may enjoy a quiet conversation in the beautiful lawn and grove area with its scenic mountain backdrop.

Camelback Hospital

5055 North 34th Street
AMherst 4-4111
PHOENIX, ARIZONA
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CSO-1054

Chimp-to-Man Kidney Transplant Functions for Two Months

A chimpanzee's kidneys transplanted to a 43-year-old man functioned for two months, a Tulane University medical team reported in the March 7 *Journal of the American Medical Association.*

The transplantation of kidneys from a 90-pound male chimpanzee took place on Nov. 5, 1963. The patient died with pneumonia Jan. 6, 1964.

The transplant was described by Keith Reemtsma, M.D., Brian H. McCracken, M.D., Jorgen U. Schlegel, M.D., Maurice A. Pearl, M.D., Charles W. DeWitt, Ph.D., and Oscar Creech Jr., M.D., New Orleans.

Immediate function of the graft was satisfactory, they said. Two episodes of threatened graft rejection were overcome and at death, there was no evidence of rejection, they pointed out.

The body's natural resistance to foreign tissue is a major problem involved in transplanting organs between unrelated persons or between animals and man.

This case presents evidence that the early graft-rejection phase following a chimp-to-man kidney transplant may be reversed, the authors concluded.

The operation was the second of five mentioned in the report in which animal kidneys were transplanted to human beings by the Tulane group. In the first case, the graft showed good function initially but later failed. The transplants in three subsequent patients, not described in detail, show "satisfactory function," according to the report.

Attempts to transplant animal kidneys to man early in this century produced no convincing evidence of graft function, the authors commented. However, they said, much of the pessimism associated with animal grafts was based on skin grafting studies in widely disparate species, and it seemed unwarranted to apply these findings to kidney transplants among primates, including man.

The decision to re-explore animal-to-man transplantation was prompted, in part, by a certain urgency, the authors explained.

The patients awaiting transplantation could not be maintained indefinitely by artificial kidney techniques, they said, and in some instances, suitable human kidneys could not be obtained from deceased or volunteer donors.

In the case reported, the patient had had high blood pressure since 1957. In June, 1963, he was hospitalized with progressive kidney disease, anemia, high blood pressure, an enlarged heart and water in the lungs. Artificial means were used repeatedly to perform the work of the kidneys.

The use of a transplant from a chimpanzee was discussed with the patient and he consented to this procedure, according to the report.

The donor kidneys were implanted in the right groin area and connected to the iliac artery and vein. The patient's own kidneys were not removed, although they did not function after the operation.

The first threatened rejection occurred four days after the transplantation. With drug and radiation treatment, the patient improved within 24 hours and he was able to walk and eat a regular diet.

During the third week after the operation a milder rejection threatened. Following treatment, the patient again improved. At the start of the fifth postoperative week, the patient was on a regular diet, but he was readmitted to the hospital on Dec. 20 with pneumonia.

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Valium (diazepam) may also be useful in acute agitation due to alcohol withdrawal.

Valium (diazepam) may be of use to alleviate muscle spasm associated with cerebral palsy and athetosis.

Dosage and administration	*Usual daily dose*
Mild to Moderate Psychoneurotic Reactions: Manifested by anxiety-tension alone or with depressive symptomatology, agitation, restlessness, psychophysiological disturbances	2 mg to 5 mg, 2 or 3 times daily
Severe Psychoneurotic Reactions: Where severe anxiety, fear, agitation, aggression or hostility exist alone or with depressive symptoms	5 mg to 10 mg, 3 or 4 times daily
Alcoholism: As an aid in symptomatic relief of acute agitation, tremor, impending or acute delirium tremens and hallucinosis	10 mg, 3 or 4 times during the first 24 hours; reducing to 5 mg, 3 or 4 times daily as needed
Muscle Spasm: Associated with cerebral palsy or athetosis.	2 mg to 10 mg, 3 or 4 times daily

Contraindications: Valium (diazepam) is contraindicated in infants, patients with a history of convulsive disorders or patients with a history of glaucoma.

Warning: Valium (diazepam) is not of value in dealing with psychotic patients manifesting anxiety and should be avoided when there is reason to believe the patient is psychotic.

Precautions: In elderly or debilitated patients, it is important to limit the dosage to the smallest effective amount to preclude the development of ataxia or oversedation (not more than 1 mg, 1 or 2 times daily initially, to be increased gradually as needed and tolerated). As is true of all CNS-acting drugs, until the correct maintenance dosage is established, patients receiving Valium (diazepam) should be advised against possibly hazardous procedures requiring complete mental alertness or physical coordination. Driving an automobile during the period of Valium (diazepam) therapy is not recommended. In general, the concurrent administration of Valium (diazepam) and other psychotropic agents is not recommended. If such combination therapy is used, careful consideration should be given to the pharmacology of the agents to be employed with Valium (diazepam)—particularly with known compounds which may potentiate the action of Valium (diazepam), such as phenothiazines, barbiturates, MAO inhibitors and other antidepressants.

Since Valium (diazepam) has a central nervous system depressant effect, patients should be advised against the simultaneous ingestion of alcohol and other central nervous system depressant drugs during Valium (diazepam) therapy. Safe use of Valium (diazepam) during pregnancy has not been established. The usual precautions are indicated when Valium (diazepam) is used in the treatment of anxiety states where there is any evidence of impending depression; particularly the recognition that suicidal tendencies may be present and protective measures may be necessary. The usual precautions in treating patients with impaired renal or hepatic function should be observed.

Side effects: In clinical use, fatigue, drowsiness and ataxia have been reported; in most instances these are dose-related and may be avoided by proper dosage adjustment. Mild nausea and dizziness may occur on occasion. As with any new agent, when it is administered for protracted periods of time, periodic blood counts and liver function tests are advisable. Abrupt cessation after prolonged overdosage may, in some patients, produce withdrawal symptoms (*e.g.,* convulsions, tremor, abdominal and muscle cramps, vomiting, sweating) similar to those seen with barbiturates, meprobamate and Librium® (chlordiazepoxide HCl). Changes in EEG patterns have been observed in patients during and after Valium (diazepam) treatment.

Paradoxical reactions, such as excitement, depression, stimulation, sleep disturbances, acute hyperexcited states and hallucinations have been reported. Other side effects noted have been blurred vision, diplopia, headache, incontinence, slurred speech, tremor and skin rash.

How supplied: For oral administration: Valium (diazepam) scored tablets, 2 mg, white, bottles of 50 and 500; 5 mg, yellow, bottles of 50 and 500.

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BOOKS RECEIVED

Books received by CALIFORNIA MEDICINE *are acknowledged in this column. Selections will be made for more extensive review in the interest of readers as space permits.*

APPRAISAL OF CURRENT CONCEPTS IN ANESTHESIOLOGY—Volume 2—Edited and assembled by John Adriani, M.D., Professor of Surgery, Tulane University School of Medicine, New Orleans, La.; Clinical Professor of Surgery and Pharmacology, Louisiana State University School of Medicine, New Orleans, La.; Director, Department of Anesthesiology, Charity Hospital of Louisiana, New Orleans, La. The C. V. Mosby Company, St. Louis. 1964. 478 pages, $10.75.

CHEMICAL AND BIOLOGICAL ASPECTS OF PYRIDOXAL CATALYSIS—Proceedings of a symposium of the International Union of Biochemistry, Rome, October 1962; Contributory Support from the Italian National Council of Research and the Accademia Nazionale dei Lincei. Edited by E. E. Snell, P. M. Fasella, A. Braunstein, and A. Rossi Fanelli. A Pergamon Press Book, distributed by The Macmillan Company, New York, pursuant to a special arrangement with Pergamon Press Limited, Oxford, England, 1964. 599 pages, $20.00.

CRAIG AND FAUST'S CLINICAL PARASITOLOGY—Seventh Edition, Thoroughly Revised—Ernest Carroll Faust, A.B., M.A., Ph.D., LL.D., Emeritus Professor of Parasitology, Department of Tropical Medicine and Public Health, Tulane University School of Medicine, New Orleans, Louisiana; Consultant, U.S. Public Health Service; Member, Expert Panel on Parasitic Diseases, World Health Organization; and Paul Farr Russell, M.D., M.P.H., D.Sc.(Hon.), Visiting Lecturer, Tropical Public Health, Harvard School of Public Health; Consultant to Surgeon General, U. S. Army; Consultant to Agency for International Development. Lea & Febiger, Philadelphia, Pa., 1964. 1099 pages, 352 illustrations and 8 colored plates, $16.50.

CURRENT DIAGNOSIS & TREATMENT—1964—Henry Brainerd, M.D., Professor of Medicine and Chairman, Department of Medicine, University of California School of Medicine (San Francisco) and Physician-in-Chief University of California Hospitals (San Francisco); Sheldon Margen, M.D., Associate Professor of Human Nutrition Department of Nutritional Science, University of California (Berkeley), and Associate Professor of Social Welfare, University of California (Berkeley); Lecturer, Department of Biochemistry University of California School of Medicine (San Francisco); and Milton J. Chatton, M.D., Assistant Clinical Professor of Medicine, Stanford University School of Medicine (Palo Alto), and Geriatric Consultant, Palo Alto Medical Clinic; and associate authors. Lange Medical Publications, Los Altos, Calif., 1964. 370 pages, $9.50.

DRUGS OF CHOICE—1964-1965—Walter Modell, M.D., Editor; Associate Professor of Pharmacology, Cornell University Medical College, New York, N. Y.; Attending Physician, Veterans Administration Hospital, Montrose, N. Y.; Chairman, Advisory Committee on New Drugs to the Food and Drug Administration; Member, Executive Committee, United States Pharmacopeia XVII; Editor, Clinical Pharmacology and Therapeutics. The C. V. Mosby Co., 3207 Washington Blvd., St. Louis 3, Mo., 1964. 1018 pages, $16.75.

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NEW BOOK

HANDBOOK OF POISONING: Diagnosis and Treatment. By Robert H. Dreisbach, M.D. 4th ed. 467 pages. 1963. Lange. $4 (paper).

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HANDBOOK OF COMMUNITY PSYCHIATRY AND COMMUNITY MENTAL HEALTH—Edited by Leopold Bellak, M.D., Director of Psychiatry, City Hospital at Elmhurst, New York City. Grune & Stratton, Inc., 381 Park Avenue South, New York 16, N. Y., 1964. 465 pages, $14.50.

HIGHER SATURATED BRANCHED CHAIN FATTY ACIDS, THE—Volume 7, Part 1, Progress in the Chemistry of Fats and Other Lipids—Sixten Abrahamsson, Stina Stallberg-Stenhagen and Einar Stenhagen—Edited by R. T. Holman, Professor of Physiological Chemistry, Hormel Institute of the University of Minnesota, Austin, Minnesota, and the late T. Malkin, Department of Organic Chemistry, University of Bristol, Bristol, England. This book is distributed by the Macmillan Company, 60 Fifth Ave., New York 11, N. Y., pursuant to a special arrangement with Pergamon Press Limited, Oxford, England; 1963. 164 pages, $5.75 (paperbound).

HISTOCHEMISTRY AND CYTOCHEMISTRY—Proceedings of the First International Congress, Paris, 1960—Edited by R. Wegmann. A Pergamon Press Book, distributed by the Macmillan Company, New York, pursuant to a special arrangement with Pergamon Press Limited, Oxford, England; 1963. 481 pages, $15.00.

IMMUNOPATHOLOGY—Third International Symposium, held at Scripps Clinic and Research Foundation, La Jolla, Calif., USA, January 1963—Edited by Pierre Grabar, Paris, and Peter A. Miescher, New York. Schwabe & Co., Publishers, Basel/Stuttgart; in USA and Canada, Grune & Stratton, Inc. Publishers, New York, 1964. 389 pages, $18.50.

INTRODUCTION TO PSYCHOPATHOLOGY—Shervert H. Frazier, M.D., Professor and Chairman, Department of Psychiatry, Baylor University College of Medicine; Director, Houston State Psychiatric Institute; and Arthur C. Carr, Ph.D., Associate Professor of Medical Psychology, College of Physicians & Surgeons, Columbia University; Associate Clinical Psychologist, New York State Psychiatric Institute. The Macmillan Company, New York; Collier-Macmillan Limited, London, 1964. 168 pages, $3.95.

LYSOSOMES—Ciba Foundation Symposium—Edited by A. V. S. de Reuck, M.Sc., D.I.C., A.R.C.S., and Margaret P. Cameron, M.A. Little, Brown and Company, Boston, Mass., 1963. 446 pages, $11.50.

MEDICAL PHARMACOLOGY—Principles and Concepts—Second Edition—Andres Goth, M.D., Professor of Pharmacology and Chairman of the Department, The University of Texas Southwestern Medical School, Dallas, Texas. The C. V. Mosby Company, St. Louis, 1964. 585 pages, $11.75.

PEDIATRIC THERAPY—Harry C. Shirkey, B.S. (Pharm.), M.D., F.A.A.P. (Editor), Director, The Children's Hospital of Birmingham, Alabama; Associate Professor of Pediatrics, Medical College of Alabama, Birmingham, Ala., Member, Revision Committee, United States Pharmacopeia; Professor of Pharmacology, Howard College, Birmingham, Ala. The C. V. Mosby Company, St. Louis, Mo., 1964. 1144 pages, $16.50.

PRACTICAL HAEMATOLOGY—Third Edition—J. V. Dacie, M.D.(Lond.), F.R.C.P. (Lond.), Professor of Haematology, Postgraduate Medical School of London; and S. M. Lewis, B.Sc., M.D. (Cape Town), D.C.P. (Lond.), Lecturer in Haematology, Postgraduate Medical School of London. Grune & Stratton, Inc., 381 Park Avenue South, New York 16, N. Y., 1964. 435 pages, $7.50.

PRINCIPLES OF PUBLIC HEALTH ADMINISTRATION—Fourth Edition—John J. Hanlon, M.S., M.D., M.P.H., Director of Community Health Services, City of Philadelphia; Professor and Chairman, Department of Preventive Medicine and Public Health, Temple University School of Medicine, Philadelphia, Pa. The C. V. Mosby Company, 3207 Washington Blvd., St. Louis 3, Mo., 1964. 719 pages, $11.50.

PSYCHOLOGICAL ASPECTS OF DIABETES, THE or How to Live in Emotional Balance with Diabetes—Harold Geist, Ph.D., Consulting Psychologist, Berkeley, Calif.; with a foreword by Mary B. Olney, M.D., Executive Director, Bearskin Meadow Diabetic Camp. Charles C.

(Continued on Page 33)

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Case Reports Show Value Of Educational Therapy

The value of educational therapy in helping children with learning difficulties is demonstrated in three cases reported in the February *American Journal of Diseases of Children*, published by the American Medical Association.

An article by Russell Sands, M.D., Santa Monica, Calif., and Marianne Frostig, Ph.D., and David Horne, B.A., Los Angeles describes the cooperative efforts of the pediatrician and a school of educational therapy.

A graphic case of improvement was that of an eight-year-old girl referred to the therapy center after showing signs of a severe school phobia for two years. She was retarded in muscular coordination, visual perception, and education, and could not tie a knot or bow, skip or hop, read or write, or copy simple drawings.

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At the center she was given special training in deficient areas and academic subjects were taught by methods which compensated for her perceptual difficulties.

After one year at the center, she was able to return to public school. In her second semester, she earned A grades in all subjects except physical education and arts and crafts, in which she earned B's.

A seven-year-old boy referred to the school because of learning difficulties and behavior disorders presented a slightly different problem. Although he had poor vision and some physical disability, these were not major handicaps. However, his achievement level was six months below the rest of his second grade classmates.

It soon became apparent that his parents' attitude toward him exaggerated the importance of his minor impairment and made him feel worthless and inadequate.

After attending the therapy school, he was able to enter the third grade working at grade level. But he was only able to benefit from this training after his parents joined one of the school's parent-discussion groups and changed their attitude toward him.

The third case involved a pre-school age child. The boy, examined at age four and one-half, had lost some motor coordination after a fall and walked with an abnormal gait. Intellectual impairment was feared because he screamed without reason and did not seem to understand, or be able to communicate with, his mother.

However, testing showed his intellectual functioning was normal and educational therapy was begun. He was given special training to enhance coordination and was taught to pay attention and accept direction.

"At the end of one year he entered public school kindergarten—suffering only a slight disadvantage in games requiring balance," the authors said. "In tasks involving space perception and visuomotor planning, he was ahead of his age level. He is now seven years old and has maintained excellent progress."

Without timely treatment, this child may well have experienced failure in public school, they added.

TUMOR STAIN IN A PITUITARY ADENOMA—I. I. Kricheff (622 W. 168th St., New York City) and D. L. Schotland. Radiology 82:11 (Jan.) 1964.

An angiographic tumor stain is reported in a histologically documented chromophobe adenoma of the pituitary. A review of the literature failed to disclose a previous report of such an occurrence.

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Men off Work More Days Sick Than Women, Among Single

Among unmarried employees, men stay home from work because of sickness more days than women.

The sick absence rate among single men was found to be 4.3 days per person per year compared with 3.9 days among single women, according to a report in the March *Archives of Environmental Health*, published by the American Medical Association.

Single women have higher rates than single men only at ages under 35 and thereafter have lower rates than men, with a markedly lower rate at age 45 and over, the report showed.

Among married persons, however, women had a higher rate of sick days than men, 6.1 days per woman per year compared with 4.7 per man per year.

"From this it would appear that the important factor in high sick absence among females is related to marriage rather than to the fact that females are females," Philip E. Enterline, Ph.D., U.S. Public Health Service, Washington, D.C., concluded.

Dr. Enterline reported previously unpublished data on sick absence by age, sex and marital status for the United States during a two-year period, ending in June, 1961. The data on a random sample of about 35,000 households originally was collected in monthly interviews for the U. S. Department of Labor. The sample represents the experience of about 56,000,000 wage and salary workers.

The sick absence of women, presently or previously married, is roughly 50 per cent higher than that of single women, Dr. Enterline found.

"This contrast declines slightly with age but nevertheless remains sufficiently constant to suggest that, whatever factors are involved, they exist throughout the working life of women who have married," he commented. "This seems to rule out, for example, high sick absence due to pregnancy and childbirth since these events occur mostly at the younger ages."

The highest sick absence among women appears where the spouse is absent or the marriage has been dissolved, either by death or divorce, he pointed out.

The responsibility of caring for children offers a reasonable explanation for the higher sick absence among married women, he said, adding:

"Possibly interacting with this is the likelihood that married females are often less dependent upon their jobs for economic support or as a career than are males, or single females, and therefore are more likely to stay away from their work because of illness."

Were it possible to remove such socio-cultural factors, he added, women would no doubt have a superior sick absence record when compared with men.

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BOOKS RECEIVED

(Continued from Page 22)

Thomas, Publisher, 301-327 East Lawrence Avenue, Springfield, Ill., 1964. 81 pages, $4.75.

SAVAGE PLACE, A—Frank G. Slaughter. Doubleday & Company, Inc., 575 Madison Ave., New York 22, N. Y., 1964. 248 pages, $4.50.

SURGICAL PATHOLOGY—Third Edition — Lauren V. Ackerman, M.D. Professor of Surgical Pathology and Pathology, Washington University School of Medicine, St. Louis, Mo.; Surgical Pathologist, The Medical Center, St. Louis, Mo.; Consultant to the Armed Forces Institute of Pathology. In collaboration with Harvey R. Butcher, Jr., M.D., Associate Professor of Surgery, Washington University School of Medicine, St. Louis, Mo. The C. V. Mosby Co., 3207 Washington Blvd., St. Louis 3, Mo., 1964. 1244 pages, with 1216 illustrations, $18.75.

Recovery of Fertility Reported After Radiation Accident

Five men who became sterile as a result of a radiation accident at one of the Oak Ridge, Tenn., nuclear plants have recovered good potential fertility, it was reported in the February 29 *Journal of the American Medical Association.*

Authors of the report were John MacLeod, Ph.D., Robert S. Hotchkiss, M.D., and Beecher W. Sitterson, M.D., New York City.

Of eight men injured in the June 16, 1958 accident, the five who received the greatest amount of radiation (236 to 365 rads) became sterile within nine months and remained sterile for more than two years, according to the *Journal* article.

Three years and five months after the accident, reproductive capacity of the five men "ranged from satisfactory to excellent as measured by all available standards," the researchers said.

A review of male fertility data on all recorded cases of sublethal nuclear radiation accidents clearly shows that relatively small amounts of radiation will produce pronounced effects on the sperm (male sex cell)-producing organs but that ultimate recovery of some degree of fertility is possible in most, if not all, of such cases, they added.

It is clear that damage to reproductive tissue, while much more protracted than that to other tissues, is reversible, an accompanying *Journal* editorial said. It is impossible to speculate upon genetic effects, the editorial pointed out, although the superficial shape of mature male sex cells after recovery does not seem to be affected.

At the time of the accident, the five men who received the heaviest dose of radiation ranged in age from 33 to 51. All were married and had from one to four children each. None has fathered a child since the accident, the report indicates.

Dr. MacLeod is associate professor of anatomy at Cornell University Medical College. Dr. Hotchkiss is professor of urology at New York University College of Medicine. Dr. Sitterson is chief of clinical services medical division, Oak Ridge Institute of Nuclear Studies.

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References: 1. Raddin, J. B., and Dowell, L. B.: Amer. J. Gastroent. **37**:24-40 (January) 1962. 2. Calloway, N. O.: Article to be published. 3. Reichert, J. L.: Pediat. Clin. N. Amer. **2**:527-538 (May) 1955. 4. Hootnick, H. L.: J. Amer. Geriat. Soc. **4**:1021-1030 (October) 1956.

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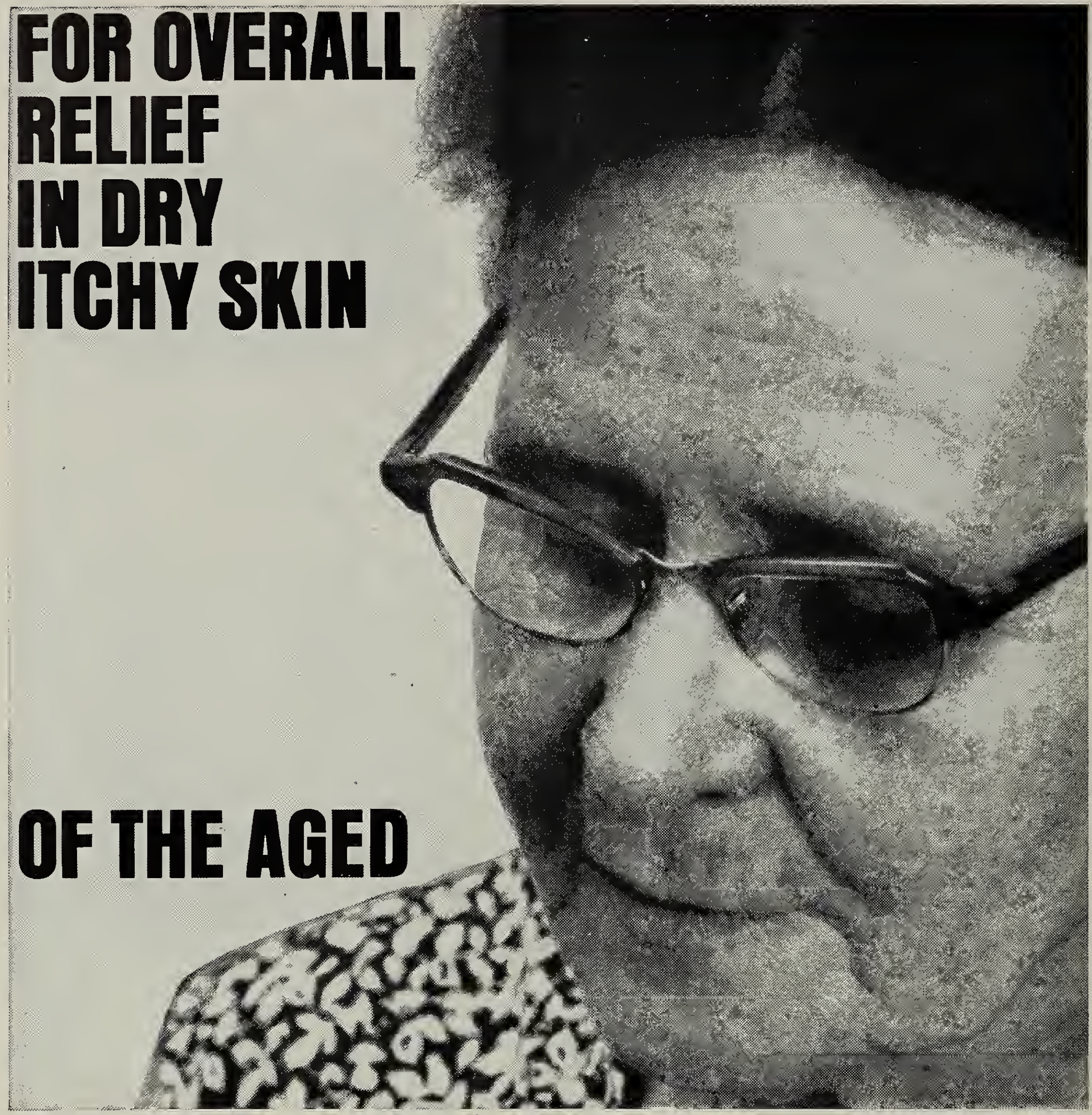

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The Physician-Population Ratio in California

With Special Reference to Licensing of Graduates from Other States and Abroad

JUSTIN J. STEIN, *M.D.*,* Los Angeles

As a large number of foreign-educated physicians are licensed in California each year, a discussion of some of the points relating to their licensure should be of great interest to physicians of this state.

Any increase or decrease in the number of physicians will reflect in the physician-population ratio, and for that reason data on this ratio are also included.

California has for a number of years issued more licenses to practice medicine than has any other state. In 1962, the number of licenses issued, based on examination, reciprocity and endorsement, was 2,349. This represents 13.8 per cent of the total number of 17,003 licenses issued in 1962 by the 55 boards (50 states plus the Canal Zone, District of Columbia, Guam, Puerto Rico, and the Virgin Islands) authorized by law to grant licenses to practice medicine and surgery. The state issuing the next highest number of licenses was New York with 1,731. Of the 17,003 licenses issued, 8,005 were to licentiates representing additions to the U.S. medical profession in 1962.[1]

The first Medical Practice Act in California was enacted in 1876. Also, the first examining board was established in the same year. Only six states had medical practices acts enacted before 1876.[1]

Even in 1969, when the University of California School of Medicine at San Francisco will be graduating 128 medical students per annum, and also when the same number will be graduated each year at the University of California School of Medicine at Los Angeles, there will still be a shortage of physicians. The combined annual increase in the number of graduates from these two medical schools will be approximately 100. Also, when the University of California Medical School at San Diego comes into existence and begins to graduate physi-

TABLE 1.—*Licentiates Representing Additions to the Medical Profession in the United States (Including California) 1955-1962*

Year	Total No.	California	M.D. Graduates All Calif. Medical Schools	Total M.D. D.O. Calif. Graduates	Deficit*
1955	7,737	669	380	467	202
1956	7,463	599	324	403	196
1957	7,455	247	335	420	......
1958	7,809	682	337	423	259
1959	8,269	676	326	410	266
1960	8,030	652	336	409	243
1961	8,023	703	331	420	283
1962	8,005	686	366	447	239

*California has failed to produce its share of the number of physicians to maintain the physician-population ratio, as indicated in the deficit column.

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*Chairman, College Investigation Committee, Board of Medical Examiners, State of California; Professor of Radiology, U.C.L.A. School of Medicine, Los Angeles.

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cians, there will still be a deficit (Table 1). It takes from $20,000,000 to $50,000,000 and about seven to ten years for the successful planning, building, equipping, and staffing of a medical school before the first full four-year class is graduated.

It is evident that for some time in the future, California must depend upon medical schools located in other states and foreign faculties of medicine to continue to supply the necessary number of physicians to maintain an adequate physician-population ratio.

TABLE 2.—*States and Territories Examining 50 or More Foreign Graduates for Licensure in 1962*

State or Territory	Examined	Passed	Failed	Per Cent Failed
California	72	42	30	41.7
Canal Zone, Guam, Puerto Rico, Virgin Islands	82	82	0	0.0
Connecticut	139	84	55	39.6
Florida	50	45	5	10.0
Illinois	363	144	219	60.3
Indiana	73	32	41	56.2
Maryland	78	51	28	35.4
Maine	180	95	85	47.2
Massachusetts	68	31	37	54.4
Michigan	58	58	0	0.0
New Jersey	196	106	90	45.9
New York	612	345	267	43.6
Ohio	74	56	18	24.3
Pennsylvania	210	203	7	3.3
Texas	77	63	14	18.2
Virginia	264	229	35	13.3
Total Number of Foreign Applicants	2,596	1,666	931	35.9*

*Average.

TABLE 3.—*Graduates of Medical Schools in Canada Examined for Licensure in California (1939-1962)*

Year	Examined	Passed	Failed
1939	23	23	0
1940	19	16	3
1941	23	23	0
1942	7	7	0
1943	6	5	1
1944	11	9	2
1945	10	10	0
1946	11	11	0
1947	28	28	0
1948	28	26	2
1949	18	17	1
1950	19	18	1
1951	20	20	0
1952	17	17	0
1953	16	16	0
1954	14	14	0
1955	30	29	1
1956	27	23	4
1957	43	38	5
1958	38	37	1
1959	48	44	4
1960	51	43	8
1961	46	40	6
1962	36	33	3
Totals	589	547	7.1%

Although the need for more medical schools is urgent and imperative, there must be a revision of the medical curriculum in keeping with the great strides which have been made in medicine in recent years.

It is quite possible that there will have to be a change in the sharp division which now exists between the pre-professional (pre-medical) and the professional or medical education. There must be greater integration of the two, as well as possibly some shortening of the time.

It may be necessary for more women to study medicine as a career. In 1929, only 4.5 per cent of all students in the U.S. medical schools were women[2]; in 1961-62, 8.5 per cent. Approximately 24 per cent of British physicians are women; in Canada, 12 per cent; and in the Soviet Union, about 70 per cent.

Medical schools in the United States are greatly occupied with the further training of the postgraduate physician. This aspect of medical education is becoming of increasing importance because of the desire of the individual physician to continue to improve his knowledge, as well as the trend toward specialization. Sheats,[3] (dean of the University of California extension program) has noted that one of every three lawyers in the state, one of every five dentists, one of six physicians, one of eight engineers, and one of every twelve teachers is currently enrolled in the statewide University of California extension professional programs. This is certainly most gratifying.

The Council on Medical Education and Hospitals of the American Medical Association has listed nine states in which the greatest number of foreign-trained physicians was examined in 1962, and the results of the examination[1] (Table 2).

It is interesting to note in Table 2 that Michigan, the Canal Zone, Guam, Puerto Rico, and the Virgin Islands had no applicants who did not pass the examinations. Pennsylvania had only 3.3 per cent failures of 210 candidates examined.

The Council on Medical Education and Hospitals made the following comment in 1962: "The number of foreign medical graduates taking the ECFMG Examination abroad is now greater than the number taking it in the United States examination centers. This trend will, in all likelihood, continue into the future. The number of candidates having serious difficulties in their command of English has increased and will probably continue to increase as more candidates apply directly from abroad. On the basis of eight examinations, it can be prophesied that in a given examination, 62.5 per cent of the candidates will qualify; 37.5 per cent will fail."[1]

CANADIAN MEDICAL SCHOOL GRADUATES

Graduates of approved Canadian medical schools are accepted by the 55 United States licensing boards for licensure by examination on the same basis as graduates of approved U.S. medical schools. The licensure is usually based on written examination and is not by reciprocity or endorsement. California does not require the candidate to have U.S. citizenship. Citizenship may be required or a declaration of intent in other states. Internship in an approved Canadian hospital will also be accepted by most of the boards. Five hundred eighty-nine Canadian physicians have obtained California medical licenses since 1939. The average percentage of failures was 7.1 (Table 3). Of 185 graduates of Canadian medical schools examined for licensure in the U.S. in 1962, 6 per cent failed.

Foreign medical school graduates (other than Canadian) made up 39 per cent of the total who passed medical licensure examinations in the United States in 1962. In 1961 the proportion was 36.7 per cent. When the U.S. medical population was 237,395 in 1959, there were 20,159 foreign medical school graduates, including Canadians, practicing in the United States.[5]

From the data presented in Table 5, it is noted that 28.5 per cent of the medical graduates successfully examined for licensure in the U.S. during the past eight years were graduates of foreign faculties of medicine, not including Canadian graduates.

CITIZENSHIP REQUIREMENTS

Citizenship is not a requirement for licensure in California, Washington, Maine, Guam, the Canal Zone, District of Columbia, and the Virgin Islands. Nineteen states require declaration of intention, except two states, in which this is not applicable to Canadian citizens. Twenty-eight states and Puerto Rico require full citizenship, except four of the states do not apply this requirement to citizens of Canada, and three of the states require that Canadian citizens file first papers.[1]

TEMPORARY OR LIMITED LICENSES

Thirty-nine of the fifty-five licensing boards give limited and temporary licenses or permits to practice under certain conditions. California does not issue temporary licenses to practice. Under Division 2, Chapter 5, Article 3, Section 2137.1 of the Business and Professions Code,[13] subject to the provisions of the State Civil Service Act, physicians meeting these requirements without California licenses may practice in state institutions. The law is as follows:

> "*Section 2137.1.* Subject to the provisions of the State Civil Service Act, any person who is licensed to practice medicine in any other state and who complies with each and all of the requirements of Section 2147.5, with respect to registration with the Board and graduation from a school approved by the Board, may be appointed to a medical staff within a state institution and, under supervision of a

TABLE 4.—*Source of Candidates Examined for Licensure in the U.S., 1962*[1]

Medical Schools	Number Schools	Number Examined	Number Passed	Number Failed	Per Cent Failed
Approved schools in U.S.	83	5,190	5,082	108	2.1
Approved schools in Canada	12	185	174	11	5.9
Foreign faculties of medicine*	288	2,960	1,980	980	33.1
Extinct U.S. medical schools	1	1	1	1	0.0
Unapproved medical schools	5	22	4	18	81.8
Schools of osteopathy	7	460	434	26	5.7
Totals		8,818	7,675	1,143	13.0

*Only 265 of the 288 foreign faculties of medicine had candidates who were examined in 1962.

TABLE 5.*—*Data on Source of Education of Physicians Passing Examinations*

	Graduates Approved U.S. Medical Schools			Graduates Foreign Faculties of Medicine (excluding Canada)			Per Cent of Foreign to U.S. Graduates Who Passed
Year	Passed	Failed	Per Cent	Passed	Failed	Per Cent	
1955	5,979	275	4.4	1,042	729	41.4	17.4
1956	5,870	279	4.5	1,012	771	43.2	17.2
1957	5,964	280	4.3	1,345	954	41.5	22.6
1958	5,449	243	4.3	1,518	1,049	40.9	27.9
1959	5,641	204	3.5	1,870	896	32.4	33.2
1960	5,320	182	3.3	2,013	851	29.7	37.8
1961	5,156	146	2.8	1,890	793	29.0	36.7
1962	5,082	108	2.1	1,980	980	33.1	39.0
8 years	44,461	1,717	3.72	12,670	7,023	35.7	28.5

*See References Nos. 1, 6, 7, 8, 9, 10, 11, 12.

licensed physician and surgeon, may treat persons under the jurisdiction of any such state institution for a period not exceeding one year, or until October 1, 1963,* whichever is later; provided that qualified physicians and surgeons cannot be recruited in the State of California. At the end of such time, he must have secured a physician and surgeon's certificate in order to continue as a member of such medical staff. Until such person has obtained a physician and surgeon's certificate, he shall not engage in the practice of medicine and surgery in this state, except to the extent expressly herein permitted. No person appointed pursuant to this section shall be employed in any state institution or institutions for a period in excess of two years from the date such person was first employed. The provisions of this section shall terminate on October 1, 1963."*

The other conditions under which a graduate of an approved U.S. medical school may practice in California without a California license are given in Section 2147.5. This section is as follows:

"Any graduate student registered with the Board and upon whom a degree of Doctor of Medicine, Bachelor of Medicine, or Doctor of Osteopathy has been conferred by a school, approved by the Board, and any regularly matriculated student in a school approved by the Board may, during and as a part of his course of study, but not for a period of more than two years, treat the sick and afflicted either as such student in a school approved by the Board, teaching medicine, surgery, or osteopathy in this State, or as an intern in a hospital approved for the training of interns, and may, for rendering such treatment, receive compensation therefor from the hospital or school. Hospitals functioning as a part of the teaching program of an approved school in this State may exchange instructors or resident or assistant resident physicians with an out-of-state approved school, or may appoint a graduate of an approved school as a resident or assistant resident for postgraduate training who may, for a period not exceeding one year, serve as an instructor, resident, or assistant resident in such hospital in this State. Any person registered with the Board and upon whom a degree of medicine or doctor of osteopathy has been conferred by a school approved by the Board may act as a resident or assistant resident physician in any hospital or public health department approved for residencies or the training of interns, and may receive compensation therefor from the hospital or public health department; provided that any such resident or assistant resident shall qualify for and take the next succeeding examination for a physician and surgeon's certificate by one of the other methods specified in this chapter. If he shall fail to pass such examination or fail to receive a certificate by one of the other methods, pending the results of the examination, all privileges under this section shall automatically cease.

"Except to the extent authorized by this section, no graduate student or resident may treat the sick or afflicted or receive compensation therefor, or otherwise engage in, or offer to engage in, the practice of medicine or surgery, unless he shall hold a valid, unrevoked, and unsuspended physician and surgeon's certificate."

TABLE 6.—*Total Number of California Medical Licentiates in 1962*

M.D.'s living in California	25,229
M.D.'s living in other states	12,918
M.D.'s outside of the country	406
Total Number with California Licenses	38,553*

*In the total figure of 38,553 physicians with California medical licenses, 2,499 osteopathic physicians licensed to practice in this state were not included because the data were obtained as of April, 1962. Under the new 1962 California law, the authority of the Board of Osteopathic Examiners to grant any more certificates to practice after 1962 was repealed. The licensed osteopathic physicians and surgeons had until December 31, 1962, to elect to apply for registration as an M.D. or as a D.O. In all future publications with references to the physician-population ratio, the osteopathic physicians who have registered as M.D.'s will be included. As of March 12, 1963, there were only 359 licensed California osteopathic physicians and surgeons; the others had elected to register as M.D.'s. Of the 359 osteopathic physicians and surgeons, 220 were practicing in California and 139 were living out of the state. Also, 125 of the 359 osteopathic physicians and surgeons were over 65 years of age.

M.D. PHYSICIAN-POPULATION RATIO

The ratio of physicians to population in the U.S. has been approximately 135 per 100,000 population for many years. The number of licensed physicians in the U.S. in 1959 was 236,089 and the ratio of physicians to population was 133.4 per 100,000; in 1950, the ratio was 135.3 per 100,000; in 1960, it was 137.8 per 100,000, with 246,712 physicians and a total U.S. population of 179,323,175. In 1963,[14] the ratio is 146.7 per 100,000, based on a physician population of 275,974 and a U.S. Census Bureau estimate of a total U.S. population of 188,000,000. The physician-population ratio is therefore 1:681. If the birth rate continues to decline and the number of physicians licensed each year increases, the physician-population ratio will improve. It must be remembered that the modern physician using advances made in diagnosis and treatment can successfully care for a much greater number of patients with less effort and time loss.

California has been most fortunate in that the physician and population ratio has remained about the same. The M.D. physician-population ratios in California have been as follows: 1950, 1:671; 1958, 1:682; 1962, 1:676.[15] If all the physicians holding medical licenses issued by the California State Board of Medical Examiners were practicing in the state, the ratio would have been as follows: 1950, 1:493; 1958, 1:458; 1962, 1:442. The total number holding California licenses is shown in Tables 6 and 7.

The six states which consistently supply the most reciprocity candidates with California are listed in Table 9.

Only 315 of the 1,674 students who graduated from Nebraska University and Creighton University Schools of Medicine of the State of Nebraska between 1950 and 1960, remained in Nebraska to practice medicine. Approximately 140 new physicians are graduated each year from these two medical schools.[27]

A physician frequently works 60 to 70 hours each week, not because of a physician shortage, but because he wants to. The majority of physicians over

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*At the 1963 session of the California Legislature, this section was amended, extending the date to October 1, 1965.

TABLE 7.—*Ratio of Doctors of Medicine to Population in California*[15]

Year	Total California Population	No. of M.D.'s in California	Population Per M.D. in California	California Licentiates Other States	Total No. California Licentiates	Population Per Each Licensed California M.D.
1950	10,609,000	15,810	671	5,730	21,540	493
1951	11,058,000	16,242	681	6,104	22,346	495
1952	11,743,000	16,565	709	6,448	23,013	510
1953	12,168,000	17,215	707	6,919	24,134	504
1954	12,595,000	18,135	695	7,669	25,804	488
1955	13,035,000	18,984	687	8,406	27,390	476
1956	13,594,000	20,141	675	9,049	29,190	466
1957	14,190,000	20,710	685	9,693	30,403	467
1958	14,752,000	21,641	682	10,577	32,218	458
1959	15,288,000	22,606	676	11,414	34,020	449
1960	15,863,000	23,615	672	12,352	35,967	441
1961	16,453,000	24,377	675	13,256	37,959	433
1962	17,044,000	25,229	676	12,918	38,553	442

TABLE 8.—*Number of Physicians with California Licenses Dying Annually*

Year	Total Number of California Licentiates	Number Deceased	Mortality Per Cent
1950	21,540	241	1.11
1951	22,346	293	1.31
1952	23,013	290	1.26
1953	24,134	285	1.18
1954	25,804	265	1.03
1955	29,390	309	1.05
1956	29,190	281	0.96
1957	30,403	301	0.99
1958	32,218	356	1.10
1959	34,020	290	0.85
1960	35,967	312	0.81
1961	37,959	353	0.93
1962	38,553	360	0.93
Average			1.04

65 years of age who are in good health continue to practice because they have the stimulus and desire to do so and not necessarily for economic reasons, because many of them would financially be able to retire. It remains to be seen whether the younger generation of physicians will have this same dedication, stamina, and continued stimulation to practice for long hours and for many years in spite of increasing bureaucracy red tape and governmental controls.

During the past 17 years, the number of medical schools in the U.S. has increased from 77 to 87. Also, eleven additional medical schools are to be built or are in the planning stages. One of the most potent arguments for the necessity for urgent expansion of existing medical schools, as well as for the construction of new medical schools is that we are dependent upon foreign medical schools for approximately 25 per cent of all the new additions to the practice of medicine in the U.S. This same state of affairs does not exist in the legal, dental, pharmaceutical or other professions.

There is a great necessity for all practicing physicians to interest themselves in the recruitment of excellent students to enter the medical profession. Many young men have the desire to contribute something to their fellow man and for the common good. Medicine provides a natural, stimulating, provocative type of environment in which such individuals can accomplish their goals. The best place to begin the recruitment program is in high school. Physicians are the best ones to do this, if they will only do so.

It will be surprising to many physicians that during the past eight years, there were approximately thirty per cent foreign-trained physicians licensed each year in California, as compared to graduates of California medical schools. (Table 10).

In Table 11, it is interesting to note the continual increase in the number of physicians who have passed the examinations given by the National Board of Medical Examiners, the decrease in applicants applying for licensure with government credentials, and the number of foreign physicians licensed.

TABLE 9.—*The Most Frequent Sources of California Reciprocity Licentiates*

State	1954	1955	1956	1957	1958	1959	1960	1961
Ohio	60 (6)*	81 (7)	75 (7)	99 (7)	65 (11)	104 (10)	113 (9)	96 (7)
Illinois	145 (8)	129 (10)	105 (18)	136 (14)	119 (5)	89 (6)	76 (8)	88 (9)
Michigan	63 (5)	47 (7)	58 (10)	72 (12)	83 (11)	81 (10)	104 (8)	101 (6)
Minnesota	96 (13)	70 (6)	61 (5)	62 (9)	70 (10)	61 (14)	62 (6)	69 (7)
Missouri	56 (5)	68 (2)	56 (3)	69 (2)	86 (4)	80 (4)	72 (3)	75 (1)
Pennsylvania	68 (12)	46 (11)	30 (3)	51 (6)	56 (11)	63 (8)	90 (4)	75 (13)

*Numbers in parentheses denote the number of California medical licentiates endorsed to that state.

TABLE 10.—*Ratio of Foreign-Schooled Physicians to California-Schooled Physicians*

Year	No. of Graduates All California Medical Schools (including Osteopathic Physicians)	No. of Foreign Physicians in Calif. Who Passed the Examination*	Per Cent of Foreign-Trained Physicians to Calif. Medical School Graduates
1955	467	142	30.4
1956	403	133	33.0
1957	420	131	31.2
1958	423	151	35.7
1959	410	127	30.9
1960	409	130	31.7
1961	420	113	26.9
1962	447	80	17.9
8 years	3,339	1,007	29.6†

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*Passed the examination, but not necessarily licensed in the same year.

†Average.

FOREIGN PHYSICIANS LICENSED IN CALIFORNIA

From 1946 to 1962, there were 1,291 foreign-trained physicians licensed to practice in California. Other states licensing 1,000 or more foreign-trained physicians during this period of time were: Connecticut, 1,021; Illinois, 2,042; New Jersey, 1,157; New York, 4,270; Ohio, 1,935; Virginia, 1,244. Only three states in the U.S. licensed more foreign graduates than California. From 1946 to 1962, a total of 20,481 foreign-trained physicians were licensed by the U.S. State Boards.

Rappleye,[17] discussing the difficulties of selecting candidates for training as qualified, responsible physicians, said: "The selection of students for admission to medical schools is being based upon achievement in and a broad cultural education, a mature sense of values and sound motivation, an evidence of qualities of leadership and willingness to assume responsibility—characteristics in the applicant, and later the physician, that indicate his capacity to become an ethical, soundly educated doctor, not merely a technician. Since the practice of medicine is both a science and an art, the doctor must have ability to regard the patient as a whole man, as well as to treat his disease. . . . Mastery of material or knowledge alone does not seem to be sufficient to evaluate the fitness of the individual to assume responsibilities that devolve upon the doctor." In many foreign countries, especially in Latin America, Mexico, and Spain, there is very little screening of students desiring admission to the medical schools.

The Educational Council for Foreign Medical Graduates (E.C.F.M.G.) began its functions on October 1, 1957. Smiley[18] reported that the credentials of 32,562 graduates of foreign medical schools have been evaluated and that only 104 of these have been permanently rejected. He was of the opinion that, based on the results of examination, it can be predicted that about 21 per cent will prove to be very good students, and that 42 per cent will likely be mediocre students. He also found that in giving the E.C.F.M.G. examination in two languages, English and Spanish, in Puerto Rico there was very little difference noted in the results.

TABLE 11.—*Number of Licenses to Practice Medicine Issued in California and Classification of Applicants*

							Applicants Taking Examinations		
Year	Graduates—Other States Reciprocity	National Board Recipients	Government Credentials	Written Examinations	California Total No. Licensed Each Year	No. Licensed in New York	Graduates California Schools Written Exams	Graduates—Other States Written Exams	Foreign* Graduates
1940	177	30	5	396	596	......	194	151	39
1941	200	32	6	402	638	......	206	160	34
1942	223	48	12	457	722	......	238	157	44
1943	319	55	8	433	848	......	242	208	16
1944	405	72	9	443	1,001	......	336	167	12
1945	599	98	11	500	1,193	......	281	187	17
1946	1,289	247	70	439	2,152	1,513	321	209	16
1947	1,032	246	55	535	1,860	1,645	285	219	23
1948	1,017	225	31	479	1,808	1,385	280	240	15
1949	776	214	36	485	1,552	1,452	248	244	34
1950	567	233	39	517	1,386	1,161	270	228	49
1951	627	230	21	502	1,379	1,107	253	171	77
1952	777	316	39	481	1,693	1,292	245	209	107
1953	1,007	397	27	539	2,020	1,348	300	186	103
1954	1,003	438	30	530	2,000	1,498	267	161	101
1955	990	405	21	587	2,036	1,367	292	186	142
1956	782	453	17	521	1,801	1,355	293	123	133
1957	995	580	22	559	2,154	1,375	281	145	131
1958	1,038	618	21	549	2,259	1,584	263	168	151
1959	1,065	647	15	550	2,277	1,648	265	159	127
1960	1,144	754	0	532	2,427	1,572	231	157	130
1961	1,198	943	1	500	2,642	1,756	238	154	113
1962	1,073	870	0	422	2,365	1,731	278	129	80

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*The number of foreign graduates who passed the written examination and not necessarily the number licensed in that year.

TABLE 12.—*Number of Graduates of California Medical Schools (1955-1963)*[16]

School	Year 1955	1956	1957	1958	1959	1960	1961	1962	1963
California College of Medicine*	87	79	85	86	84	73	99	81	87
Loma Linda University School of Medicine†	92	84	98	96	77	85	87	82	97
Stanford University School of Medicine	116‡	62	57	54	57	57	52	57	4§
University of California School of Medicine, San Francisco	79	74	83	80	80	79	73	99	96
University of California School of Medicine, Los Angeles	26	36	30	47	46	49	53	54	53
University of Southern California School of Medicine	67	68	67	60	66	66	66	74	66

*Formerly College of Osteopathic Physicians and Surgeons.
†Formerly College of Medical Evangelists.
§Only 4 graduates because of the 5-year program.
‡Two classes.

During the academic year 1961-62, there were 8,497 foreign physicians from 94 countries in intern (1,411) and residency (7,286) training in the U.S. There were eleven hospitals in the U.S. with more than fifty foreign physicians in each one. The hospitals were located in New York (5), Massachusetts (2), Michigan (1), Washington, D.C. (1), and Minnesota (2).[19]

It has been stated that the Soviet Union is training students from other countries to be physicians. There is a medical faculty in the USSR for foreign students. The number of students admitted for the first year in October, 1960 was 200. The students were from Africa, Asia, and South America. During the first year, the students are taught the Russian language and prepared for the rest of their training.[20]

The Soviet Union has had a shortage of physicians. A large number of persons called *Feldshers* were given from two and a half to three years' training after about ten years of secondary school education. These persons can administer anesthetics, give injections, do emergency work, do lumbar punctures, draw blood and other duties of similar nature. The 70 medical schools in the Soviet Union have large classes and approximately seventy to eighty per cent of the students are women. It will be some time before the level of medical education, research, equipment and facilities will approach that of the United States. It is not anticipated that there will be an appreciable influx of foreign medical students or graduate students to the USSR for many reasons, including political and economic factors.[21]

The problems associated with the teaching of medicine in many foreign countries are similar to those in Spain. De la Pena has pointed out that there is no limitation of admission to medical schools in Spain. In Madrid, the number of students enrolled in the first two years varies between 1200 and 1500 and there are from 500 to 600 students in the clinical years. The teaching staff usually consists of volunteers without pay. He further commented that "hardly twenty per cent of the students enter into direct or clinical contact with the patient during the years of clinical study." A postgraduate program of internship or residency, and specialty boards similar to those in the U.S., do not exist. Gallego[23] stated that there is a surplus of physicians in Spain and that the number graduating each year is excessive. The teaching curriculum has undergone few changes during the past fifty years.

Vallareal[24] has noted that United Nations estimates are that there will be in 1980, approximately 349 million people in Latin America, compared with 254 million people in the U.S. and Canada. He also stated that there is a shortage of physicians in Latin America. Forty per cent of the population is under 15 years of age.

There are 88 medical schools in Latin America. Many are poorly equipped and have inadequate teaching staffs in both number and quality. Very little attention is paid to the selection of the students. A postgraduate training program such as exists in the United States is lacking.

From some of the comments which I have heard, the deans of the California medical schools are especially interested in the problems associated with the foreign medical school graduate and specifically with three possible changes or modifications of the laws regulating the practice of medicine.

The specific changes are:

1. The possible extension of the period of postgraduate study for more than one year now permitted under the California Business and Professions Code (Chapter 5, Article 1, Section 2147.6).

2. A broader interpretation by the members of the Board of Medical Examiners concerning the necessity for individuals accepted under Section 2147.6 to have all of their medical credentials approved by the Board before the beginning of such a period of training.

3. A change in the laws regulating the practice of medicine and surgery in California, to wit, that should a California medical school desire to appoint a qualified foreign medical school graduate to become a member of its full-time faculty, that he be permitted to do so after taking the written examina-

TABLE 13.—*Ratio of Physicians and Surgeons to Population*

County	Population			Licensed Physicians, M.D.			Licensed Physicians, D.O.			Total			No. of Persons Per Doctor		
	7-1-54	7-1-58	7-1-62	3-2-55	3-2-58	3-2-62	10-1-54	10-1-58	10-1-62	1955	1958	1962	1955	1958	1962
Alameda	838,900	886,800	951,900	1,458	1,570	1,721	60	51	57	1,518	1,621	1,778	552	547	535
Alpine	300	400	500	0	0	0	0	0	0	0	0	0	......	......	......
Amador	9,100	9,000	10,300	4	4	5	3	4	4	7	8	9	1,300	1,125	1,144
Butte	68,200	73,700	89,600	80	93	109	8	11	11	88	104	120	786	709	746
Calaveras	9,800	9,400	11,000	5	5	5	5	5	4	10	10	9	980	940	1,222
Colusa	11,800	11,600	12,600	4	5	5	6	7	6	10	12	11	1,180	967	1,145
Contra Costa	335,200	370,400	447,800	338	422	507	9	8	13	347	430	520	966	861	861
Del Norte	14,600	19,100	18,100	6	8	8	1	1	0	7	9	8	2,087	2,122	2,262
El Dorado	18,300	21,700	33,400	11	13	22	1	2	2	12	15	24	1,525	1,447	1,391
Fresno	300,200	344,400	387,400	319	355	380	29	40	48	348	395	428	862	872	905
Glenn	16,800	16,900	18,400	13	13	13	1	0	0	14	13	13	1,200	1,300	1,415
Humboldt	87,600	96,900	107,100	76	84	97	3	1	1	79	85	98	1,108	1,140	1,092
Imperial	68,000	70,800	78,500	57	61	61	3	1	0	60	62	61	1,133	1,142	1,286
Inyo	12,200	11,000	11,900	13	9	12	2	1	1	15	10	13	813	1,100	915
Kern	262,800	279,400	306,800	229	263	285	20	20	19	249	283	304	1,055	987	1,009
Kings	48,100	47,800	57,900	31	39	40	2	1	0	33	40	40	1,457	1,195	1,447
Lake	11,300	12,100	14,900	11	11	13	0	0	0	11	11	13	1,027	1,100	1,146
Lassen	19,600	13,900	13,800	11	9	12	0	0	0	11	9	12	1,781	1,544	1,150
Los Angeles	4,927,300	5,791,900	6,409,700	8,035	8,916	10,050	1,371	1,396	1,597	9,406	10,312	11,647	523	562	550
Madera	38,900	39,800	41,200	26	23	24	1	2	10	27	25	34	1,441	1,592	1,211
Marin	100,700	136,800	164,600	249	328	437	4	3	1	253	331	438	398	413	375
Mariposa	5,300	4,200	5,300	4	4	5	0	0	0	4	4	5	1,325	1,050	1,060
Mendocino	49,900	52,800	50,600	47	63	72	1	1	0	48	64	72	1,039	825	702
Merced	78,000	88,400	95,200	53	59	64	1	1	1	54	60	65	1,444	1,473	1,464
Modoc	10,300	9,100	8,000	4	5	4	0	0	0	4	5	4	2,575	1,820	2,000
Mono	1,800	2,300	2,600	0	1	0	1	2	2	1	3	2	1,800	767	1,300
Monterey	155,500	192,200	202,900	190	244	255	14	12	12	204	256	267	762	751	759
Napa	56,700	63,500	70,400	114	141	157	2	1	1	116	142	158	488	447	445
Nevada	20,000	17,900	22,200	24	20	20	1	1	0	25	21	20	800	852	1,110
Orange	293,900	586,800	880,000	424	623	979	57	93	145	481	716	1,124	611	834	782
Placer	47,700	51,400	61,900	59	67	79	4	3	5	63	70	84	757	734	736
Plumas	13,000	11,700	11,500	14	13	14	0	0	0	14	13	14	928	900	821
Riverside	204,300	258,200	350,000	254	298	361	40	40	38	294	388	399	694	877	764
Sacramento	346,200	451,200	561,700	391	480	596	36	54	74	427	534	670	810	845	838
San Benito	14,700	15,500	16,000	12	14	11	0	0	0	12	14	11	1,225	1,107	1,454
San Bernardino	362,700	470,500	556,500	397	499	595	41	49	62	438	548	657	828	859	847
San Diego	738,500	943,400	1,129,800	989	1,179	1,420	82	105	110	1,071	1,284	1,530	689	735	738
San Francisco	785,900	791,100	748,900	2,254	2,367	2,511	31	22	23	2,285	2,389	2,534	343	331	295
San Joaquin	238,600	241,000	261,300	220	254	302	18	19	25	238	273	327	960	883	799
San Luis Obispo	59,600	66,500	90,300	87	107	125	8	7	6	95	114	131	627	583	689

San Mateo	321,900	399,100	488,600	517	642	809	9	14	7	526	656	816	611	608	598
Santa Barbara	109,300	123,500	210,600	215	248	314	9	11	10	224	259	324	487	477	650
Santa Clara	373,200	574,800	559,800	707	887	1,341	25	16	24	732	903	1,365	509	637	556
Santa Cruz	68,300	71,200	91,300	108	117	142	9	12	9	117	129	151	583	552	604
Shasta	43,700	51,200	66,200	42	57	74	2	1	2	44	58	76	993	883	877
Sierra	2,900	2,400	2,300	2	1	4	2	2	0	4	3	4	725	800	575
Siskiyou	32,900	30,700	33,700	22	26	30	2	0	1	24	26	31	1,370	1,181	1,087
Solano	117,800	125,500	145,400	118	123	144	2	1	1	120	124	145	981	1,012	1,002
Sonoma	121,700	144,700	158,200	182	218	242	6	7	7	188	225	249	647	643	635
Stanislaus	143,900	149,700	164,600	160	187	199	3	2	2	163	189	201	882	872	818
Sutter	29,200	30,800	34,500	11	13	16	0	0	1	11	13	17	2,654	2,369	2,029
Tehama	20,000	22,800	27,100	15	16	20	1	1	1	16	17	21	1,250	1,341	1,290
Trinity	6,300	9,600	9,400	4	7	7	0	0	0	4	7	7	1,575	1,371	1,342
Tulare	148,600	151,200	175,900	116	133	145	14	18	19	130	151	164	1,143	1,001	1,072
Tuolumne	14,100	13,600	15,100	10	12	14	4	2	2	14	14	16	1,007	971	943
Ventura	141,100	175,300	234,800	162	194	248	20	22	42	182	216	290	775	812	809
Yolo	50,600	57,800	73,000	42	49	55	1	1	1	43	50	56	1,176	1,156	1,303
Yuba	31,200	26,600	40,400	38	42	49	2	1	1	40	43	50	780	619	808

tion or no examination, and that the other requirements, such as the required internship in California not be applicable.

With regard to (1), the possible extension of the period of postgraduate study to more than one year, I wish to make the following comments:

At present this one year of postgraduate study is limited to medical school sponsorship. A number of individuals and groups believe that some non-university hospitals can provide the foreign graduate with a teaching program as good as or better than that of the medical schools. It has been recommended by such groups that the foreign graduate pass the E.C.F.M.G. examination, merely register with the Board of Medical Examiners, and be permitted to spend up to five years in an approved hospital for internship and residency training.

There are many problems associated with such a proposal. First of all, it would probably result in an attempt by a number of hospitals to fill their quota of interns and residents with foreign graduates. A special postgraduate program would require the help of many staff members. Would they be willing to take the time to do this? Have the candidates been well screened? Do they have positions waiting for them when they return home? How will they be received by their local physicians on their return? Do they have faculty positions in their country? What is to prevent their returning home and then re-applying to return to the U.S.? If many return to the U.S. (and they do), this tends to defeat the program which is to help train physicians to elevate the medical standards in their own countries.

In 1961, the American Board of Surgery certified 68 foreign medical school graduates as having successfully completed Parts I and II of the certifying examinations. This represents ten per cent of all surgeons taking the examinations. The ratio of failures for Part I in December, 1960, and December, 1961 was forty-two per cent and forty-seven per cent, as compared with eleven per cent and fifteen per cent, respectively, for U.S. and Canadian graduates. In analyzing these results, Jones[25] questioned whether the foreign graduates were prepared or fitted for such training in the first place and also whether the foreign graduates go to less attractive residency training programs which have a difficult time in filling their quota. Both the U.S. and foreign graduates had received their postgraduate training in this country in approved residency training programs.

Many hospitals at the present time are unable to provide the foreign graduate with a good postgraduate teaching program. An adequate dedicated staff that wants to do this is absolutely essential. If an orientation program has not been prepared, and if the foreign graduate has any language difficulty, he will not get much out of such a program. The language problem can be critical to the patient, as well as to the foreign graduate. Even if there is no language problem, a special program must be formulated for the foreign graduate. There must be a responsible workable program if the foreign graduate is going to profit by his stay in this country.

White[28] expressed the opinion that medical graduates who come to the U.S. to be trained or to do research should not remain permanently in the U.S. unless this has been determined in advance. He believed that they should return home to practice medicine. Also, he emphasized that "before accepting a trainee or investigator from abroad, there should be a clear understanding with the university, institute, or hospital from which he comes that he will have a responsible and usually a teaching or research post at home assured to him in advance." Also, that he have an adequate knowledge of English.

Each of the Board of Medical Examiners in the U.S. must have adequate knowledge of the levels of medical education in different parts of the world. There is a vast difference in the levels of education. All physicians should interest themselves in the medical problems confronting the various countries of the world. Although the Board of Medical Examiners has administrative powers only and is not a legislative body, through the years the members of the Board have accumulated a great deal of experience and knowledge and they are in a good position to represent the entire medical profession, as well as continue to help maintain high medical standards in this state.

Section 2147.6 is set up specifically for those physicians who wish additional postgraduate training and who are expected to return to their own country to train other physicians and assume some degree of medical leadership. If the physician is already trained, how much additional training does he need? Most Americans would not want more than six months to one year in foreign postgraduate study. With some 670 medical schools in 80 countries graduating about 65,000 new physicians, how many of the foreign physicians can be given additional training in this country?[29] Is there an overall plan to give specific types of training to foreign graduates for use in special areas, for example, in anesthesiology, where a cardiovascular surgical center is being established; for surgeons specializing in certain fields who are developing training centers in their own countries? Will American graduates be displaced from residency programs? I know of certain instances where foreign physicians took three or four years of postgraduate training in this country and when they returned home they were considered as outsiders by the medical heirarchy and all efforts to make changes for the better were resisted. If a foreign graduate comes for more than one year, he may get married, have children, become enthralled with life in this country and (who could blame him), decide to stay. He would not have much difficulty in convincing people that if he was good enough to be taken for postgraduate work and did a good job, he sees no reason why he cannot remain to practice medicine. The whole purpose of this program is to increase the knowledge and capabilities of the foreign graduate so he can help his people in his country, where he is needed and where a shortage of good physicians exists.

I am enthusiastic about the exchange of physicians between the various countries, which I believe most necessary and beneficial for everyone. Having been an exchange professor to Mexico (1953), Spain (1958 and 1961), and to the Soviet Union (1963), I believe I have some knowledge of this subject. I am not certain that dislocating a physician from his home, family, customs, friends, and his colleagues for a period in excess of one year is desirable unless he has a definite position awaiting him in his country. If he took training in several parts of this country, he would know more about the U.S., its people and customs. New York is certainly not the United States any more than Moscow is the Soviet Union. Each city only represents a part of the respective country. I am sure that it also was not the intention of the State Department and of other groups to encourage the influx of foreign physicians to this country in order to supply hospitals with professional help to carry out routine hospital services. At the present time, more than twenty-five per cent of all internship and residency positions are filled by foreign graduates. The fact that many complaints have been made by the foreign graduates is indicative that broad, well-oriented educational programs have not been prepared by all the hospitals accepting foreign graduates. If the foreign graduate training program is to become effective, it must be highly organized. It is most important that if a foreign physician is accepted for training, he be well received and given a good medical program. He will return to his country as an ambassador of good will for the U.S.

Many physicians are of the opinion that if teams of highly qualified physicians from this country give postgraduate courses to the foreign physicians in their own countries, this would be a more productive way of providing postgraduate training for the foreign physician. The foreign physician would not be removed from his own environment. It must be kept in mind that the foreign physician has special problems in his own country and often limited facilities and medical equipment. Several key medical centers in different parts of the world staffed by rotating teams of specialists for on-the-spot training can be highly productive of good will, as well as increasing the knowledge and capabilities of the foreign physician.

I am a firm believer that we would accomplish the greatest good for the most people and for better international good will if more long range educational programs completely endorsed by certain U.S. medical faculties were established in foreign countries requesting such aid. Smyth[26] has clearly pointed out: "The discontent of the students who come to the U.S. is to be expected. Their impatience and the limits and frustrations which their ambitions face on their return is to be understood."

Why should we expect to transplant large numbers of foreign physicians away from their families, customs, traditions and restrictive governments for long periods and then cast them back to their countries where they may not be openly accepted or given the equipment to carry out their task? The foreign physicians who come to California with a visitor's visa and with the full blessing of their own faculty and with a faculty position awaiting them on their return from further postgraduate education are in a separate category and do not present much of a problem. They should be given every possible assistance.

With regard to Item 2, I believe that it would be desirable that there be a broader interpretation by the members of the Board of Medical Examiners concerning the approval of the credentials of foreign graduates coming to California medical schools for postgraduate study under Section 2147.6. The medical school could make a thorough study of each candidate and determine that he has graduated from the foreign medical school, has proper credentials, a valid visitor's visa, suitable character references, and evidence of appointment by the dean of the medical school. This information should be sent to the Board of Medical Examiners.

At present there is frequently a long delay before the candidates can assemble all the information desired by the Board, which often interferes with his beginning his postgraduate study on time. Now he must supply the same information as a candidate applying for licensure, except that he is not required to show that his country will accept American citizens on the same basis. I am certain that this matter can be settled by the Board in order to expedite the applicant's request.

Concerning the appointment of foreign graduates to full-time medical school faculty positions after only the California written examination or no examination, and without any other provisions, I believe this requires a lot of thought. The requirements for permitting a foreign-trained physician to obtain a license in order to become a member of a teaching medical school faculty in California should never be less than the requirements demanded of any graduate of a U.S. approved medical school.

It is relatively easy to get foreign graduates who are well trained to accept American medical school faculty positions. I believe that it is desirable to have different viewpoints among the faculty members, and the stimulus provided by well qualified foreign scholars can be most helpful. Since a large number of foreign-trained physicians are licensed each year in California who have to satisfy only the minimal licensing requirements of the State Board, then certainly the Board should study the problem of accepting outstanding foreign physicians for teaching positions.

At the same time, I wonder if attempts have been made to make the most effective use of practicing physicians who are in the community. In some areas, a system of rotation of highly qualified physicians who could leave their practices for periods up to three months could be developed. The physicians should be paid for their services. They could fill in for full-time physicians who are on sabbatical leave or they could augment the teaching program. A greater use can be made of prominent physicians as visiting lecturers to augment the teaching programs for both undergraduate and graduate physicians.

The medical school faculty member can play a big role in helping mold the character and opinions of the student. The faculty member must participate in community and local organizational affairs if medicine is to remain free of governmental bureaucracy. A thorough knowledge of medicine is only one of the requirements of the full-time faculty member. In the socio-economic aspects of medicine, physicians should always remain as individuals. Many foreign physicians have lived and worked under and tolerated governments which try to do all things for all people at the price of individual freedom. The selection of full-time faculty members must be carefully done whether the candidate is U.S. or foreign-educated. The exchange of medical school faculty members with other faculties of medicine for periods of six months to one year can be most stimulating and productive for everyone.

DISCUSSION

California issues more licenses to practice medicine to physicians educated in approved U. S. medical schools than any of the 55 boards in the United States authorized by law to grant licenses to practice medicine and surgery.

During the past 16 years, only three states have issued more licenses to foreign-trained physicians to practice medicine in the United States than has California.

Approximately twenty-five per cent of all new licenses to practice medicine in the U.S. were granted to foreign-trained physicians during the past eight years.

There is an urgent need to expand existing medical schools and to increase the number of U.S. medical schools in order to fill the need for physicians.

California has been fortunate that the influx of physicians into the state has kept pace with the general population migration. For many years, the physician-population ratio in California has been steadily maintained at approximately 1:675.

If the influx of U.S. trained physicians from other states and of foreign medical graduates seeking California medical licenses continues at its present pace, the physician-population ratio will probably remain about the same.

It is reasonable to assume that the present trend of the population migration westward will not only continue, but will probably increase. The same factors, such as climate and socio-economic conditions, will motivate the physicians as well as the laity of other states to migrate to California.

The proposed expansion of the graduating classes of the University of California Schools of Medicine, San Francisco and Los Angeles, would increase the number of graduates from these two California medical schools by only about one hundred. This increase is not even enough to replace the number of foreign trained physicians who successfully pass the examinations for medical licensure in California each year. It must be remembered that to be successful in obtaining a California license to practice medicine and surgery, it is necessary to satisfy only the minimal requirements.

Although California has had no difficulty in maintaining the same physician-population ratio for many years and a high standard of medical care, steps should be taken for increasing the funds for capital and operating expenses of the four private medical schools in this state. Such funds could be obtained from the Legislature. The most rapid effective increase in the number of graduating physicians can be accomplished by the expansion of the existing private medical schools. The construction of new medical schools as planned by the University of California is also still an absolute necessity.

Because of the demand by the public for increased medical care, socio-economic changes, and the increased population growth, we should not be content with just maintaining the present physician-population ratio, but should plan for increasing the supply of well trained physicians.

Students of professions other than medicine have for years received considerable support from fellowships, scholarships and loans. Only in recent years have funds from such sources been made more adequately available to medical students. Such funds should be made increasingly available to medical students in order to encourage well qualified students to begin the long period of premedical, medical, and postgraduate training necessary to become a physician.

The existence of vacancies in the third and fourth years in the medical schools can no longer be afforded. This situation must be corrected, even if it means some "crowding" during the first two years and increasing the number of two-year medical schools. The most superficial inspection of many foreign medical schools, having inadequate facilities, large student bodies, and no entrance examination requirements, will make one ponder why we so readily accept about twenty-five per cent of all our newly licensed physicians from these schools and do so little about increasing the number of U.S. medical school graduates. This is not to say that foreign graduates who can pass our examinations are not welcome. They have contributed a great deal to American medicine. The program of medical exchanges between the U.S. and other countries must be expanded. More real international good will can be accomplished by the medical profession than by any other single group, and at considerably less expense.

The U.S. is assuming a position of leadership in world medicine. If we are to continue to accept large numbers of graduate physicians from abroad for training in medicine and research, then workable programs must be planned in advance. Foreign physicians who receive part of their training in well planned programs in the U.S. and return home can be ambassadors of good will for this country.

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UCLA School of Medicine, Los Angeles California 90024.

REFERENCES

1. Medical licensure statistics for 1962: J.A.M.A., 184: 785-834, June 8, 1963.

2. Women in medicine. Datagrams: Assoc. Amer. Med. Coll., Vol. 4, No. 12, June 1963.

3. Sheats, P. H., State-wide Dean, University of California Extension.

4. Stein, J. J.: Foreign medical school graduates, Cal. Med., 83:22-26, July 1955.

5. Percentage of Foreign Graduates in the U.S. New Medica Materia: p. 50. New York 19, N.Y., March 1960.

6. Medical licensure statistics for 1955: J.A.M.A., 161: 340-374, May 26, 1956.

7. Medical licensure statistics for 1956: J.A.M.A., 164: 419-459, May 26, 1957.

8. Medical licensure statistics for 1957: J.A.M.A., 167: 585-629, May 31, 1958.

9. Medical licensure statistics for 1958: J.A.M.A., 170: 565-610, May 30, 1959.

10. Medical licensure statistics for 1959: J.A.M.A., 173: 693-738, May 27, 1960.

11. Medical licensure statistics for 1960: J.A.M.A., 173: 693-738, May 27, 1961.

12. Medical licensure statistics for 1961: J.A.M.A., 180: 843-892, June 9, 1962.

13. Compilation of laws relating to the practice of medicine and surgery, chiropody, dispensing opticians, physical therapy, and psychology: Extracted from the Business and Professions Code, State of California, September 15, 1961.

14. M.D.-Population increases: Amer. Med. Assoc. News, p. 1, published by A.M.A., Chicago, Illinois, September 2, 1963.

15. Stein, J. J.: The number and distribution of physicians in California, Cal. Med., 92:189-193, March 1960.

16. Data obtained from the Office of the Dean of each California School of Medicine.

17. Rappleye, W. C.: Modern methods in the examination of medical students, Fed. Bull., 44:151-158, June 1957.

18. Smiley, D. F.: The educational council for foreign medical graduates: A report of its first four years, J. Med. Ed., 37:1031-1037, September 1962.

19. Foreign students and faculty in the U.S., 1961-62: J. Med. Ed., 37:xxx-xxxii, September 1962.

20. Hobson, W.: Medical education in Europe, J. Med. Ed., 37:815-833, September 1962.

21. Stein, J. J.: Personal observations during exchange professorship to U.S.S.R., April-May, 1963.

22. De la Pena, A.: The teaching of medicine in Spain, J. Med. Ed., 37:906-912, September 1962.

23. Gallego, A.: Medical studies in Spain, J. Med. Ed., 37:892-905, September 1962.

24. Vallareal, R.: Medical education in Latin America, J. Med. Ed., 36:1007-1015, September 1961.

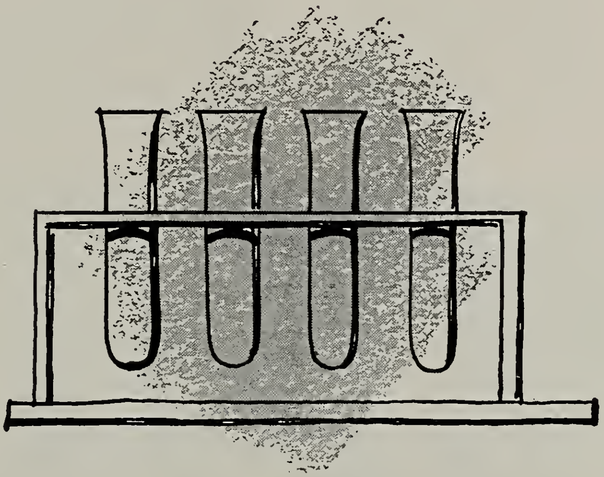
25. Jones, J. C.: Presidential Address, Amer. J. Surg., 106:109-113, August 1963.

26. Smyth, F. S.: Health and education in Indonesia, J. Med. Ed., 38:693-696, August 1963.

27. Study uncovers problems in physician distribution: Amer. Med. Assoc. News, p. 12. Published by A.M.A. November 25, 1963.

28. White, P. D.: Physician influx to U.S. cited, Amer. Med. Assoc. News, published by A.M.A., November 11, 1963.

29. Grzegorzewski, E.: Medical education in international perspective, J. Med. Ed., 36:971-986, September 1961.



Total Prosthetic Replacement for Aortic Valvular Disease

D. G. MULDER, *M.D.*, and A. A. KATTUS, *M.D.*, Los Angeles

• At the hospital of the University of California, Los Angeles, patients with acquired aortic valvular disease have been treated in the past by debridement of the obstructing calcifications or partial replacement of the valve with prosthetic cusps or a combination of these techniques. In a long-term evaluation of these patients, such methods were shown to be inadequate in most instances. We now recommend total valve replacement with the Starr-Edwards prosthetic valve in all patients with calcific aortic stenosis and for those with aortic insufficiency due to irreparable valvular lesions. The selection of patients, the operative technique, and the results thus far in nine patients are presented.

DURING THE PAST four and a half years, patients with acquired aortic stenosis have been treated at the hospital of the University of California, Los Angeles, by debriding the aortic valve of the obstructing calcifications, or by partially replacing the valve with prosthetic cusps, or by using a combination of these techniques.[3] In a recent evaluation of the long-term results in these patients it was observed that the stenotic process invariably recurred. Subtotal replacement of the insufficient aortic valve likewise was frequently inadequate. Therefore, a more radical approach to these lesions seemed justifiable.

Patients with calcific aortic stenosis and those with aortic insufficiency with irreparable valvular lesions are now treated by total replacement with the Starr-Edwards prosthesis.[3,5] This report concerns our experience with nine patients in whom total aortic valve replacement was performed.

SELECTION OF PATIENTS

Aortic Stenosis

Any patient with clinical findings suggestive of aortic stenosis, especially if symptoms of angina, syncope or congestive heart failure were present, had a thorough cardiac evaluation. Left ventricular hypertrophy on electrocardiogram strongly suggested an obstructive lesion in these cases. Roentgenograms of the chest frequently showed some enlargement of the cardiac silhouette but the abnormality was seldom striking. Calcification in the aortic valve was frequently seen. Measurement of simultaneous pressures in the left ventricle and systemic artery to determine the gradient across the aortic valve was done in virtually all suspect cases, to confirm the diagnosis and to assess the severity of the condition. A pressure differential across the valve of 50 mm of mercury or more represents a significant obstruction, and with few exceptions was considered indication for operation. Because acute left ventricular failure and sudden death occurs frequently in such patients, surgical relief of the obstruction was undertaken promptly.

Aortic Insufficiency

In contrast, patients with aortic insufficiency may tolerate the lesion for many years. Because of the dissatisfaction with prosthetic devices previously available, a conservative attitude prevailed toward operative intervention. Nevertheless, surgical repair was undertaken in patients with repeated bouts of congestive heart failure or rapidly progressive cardiomegaly, since in its later stages this lesion is refractory to conservative therapy. Since experience with the Starr valve in the aortic position has been eminently satisfactory, a more aggressive attitude seemed justified.[4] With few exceptions, operation was recommended if angina was developing or the patient had early symptoms of congestive heart failure or progressive cardiomegaly. For asymptomatic patients the decision depended upon other factors, including electrocardiographic and roentgenologic findings. Left heart catheterization and injection of radiopaque dye into the aortic root were performed only in special circumstances, since in most cases these procedures add very little essential information. Such studies are indicated if the patient is suspected of having coronary artery or coexistent mitral valve disease.

OPERATIVE TECHNIQUE

Ordinarily a median sternotomy incision was used, but if there was an associated mitral valve lesion, right lateral or bilateral anterior thoracotomy was employed. The patient was cooled on extracorporeal circulation to 30° C and the aortic valve was exposed through a transverse aortotomy. Myocardial protection was afforded by continuous perfusion of the coronary arteries. The deformed valve cusps were totally excised with only a 2 mm stub of tissue left at the base. It was frequently necessary

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From the University of California, Los Angeles, Departments of Surgery and Medicine, The Center for the Health Sciences, Los Angeles.

Submitted September 23, 1963.

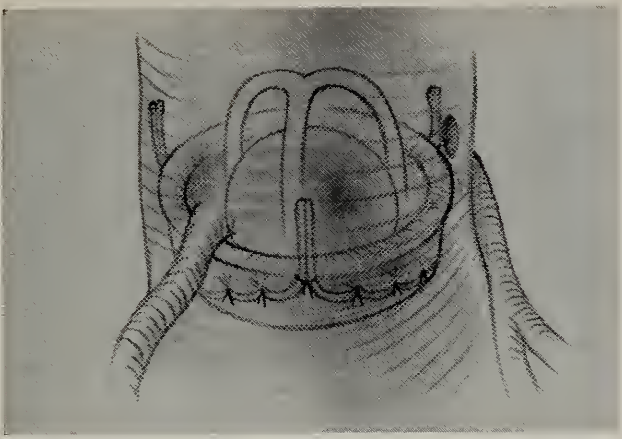

Figure 1.—After excision of the valve, the prosthetic device is seated in the subcoronary position by suturing to the cusp remnant.

TABLE 1.—***Summary of Results in Nine Patients With Aortic Stenosis (AS), Aortic Insufficiency (AI) or Both, Who Had Total Aortic Valve Replacement***

Patient	Lesion	Cardiac Class	Results Condition	Post-Op (Months)
52 w ♂	AS, AI	III	Good	4
55 w ♂	AS, AI	III	Good	3½
57 w ♀	AS, AI	III	Good	3
55 w ♂	AS	III	Good	3
50 w ♂	AS, AI	III	Good	2½
44 w ♀	AI	IV	Good	2
43 w ♂	AS	II	Died (4 days)	....
34 w ♂	AS*	II	Good	1
29 c ♂	AI	III	Good	1

*Re-operation (debridement performed initially with complete return of gradient three years later).

to debride calcific encrustations from the adjacent aortic wall or from the region of the coronary ostia.

A valve of proper size was then selected by testing the orifice in the aortic root with graded plastic sizers. The prosthetic valve was then guided into position on 12 to 15 sutures of 1-0 silk that had been placed for the purpose (20 to 25 sutures of Tev-Dek* are now used). Suture placement does not follow the scalloped margin of the cusp remnant all the way to the apex of the commissure, since this would result in occlusion of the coronary ostia by the prosthesis placed at this level (Figure 1). The perfusion cannulae were removed as the aortotomy was closed with a continuous everting mattress suture of 3-0 silk reinforced by an over-and-over suture of the same material. A left ventricular vent, inserted through a stab wound in the cardiac apex, was always used to prevent overdistention of the left ventricle during cooling and to relieve the heart of much of its work load during resuscitation and rewarming. Once the valve was in place, care was taken not to exert excessive negative pressure on the vent, since this has been known to cause the ball to stick in the closed position. When the patient had been rewarmed and strong cardiac action had returned, the vent was removed and bypass was discontinued.

RESULTS

Nine patients at the hospital of the University of California, Los Angeles have undergone total aortic valve replacement with the Starr-Edwards ball valve (Table 1). Two of them had pure aortic insuffi-

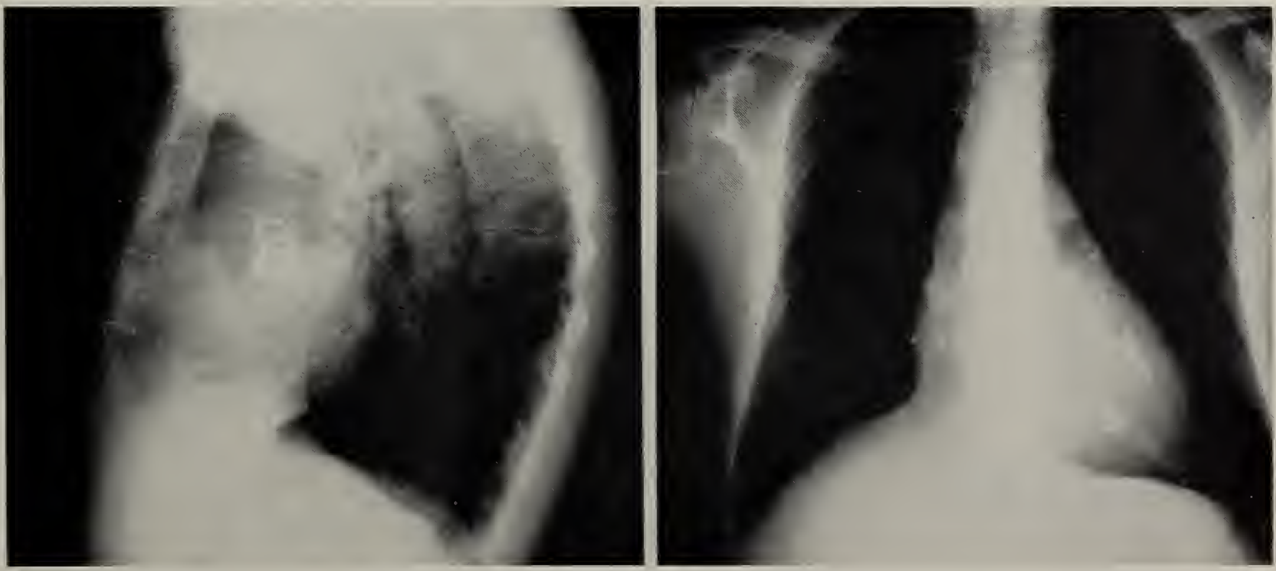

Figure 2.—Posterior-anterior and lateral chest roentgenogram, two months after operation, in a patient with calcific aortic stenosis.

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*Deknatel.

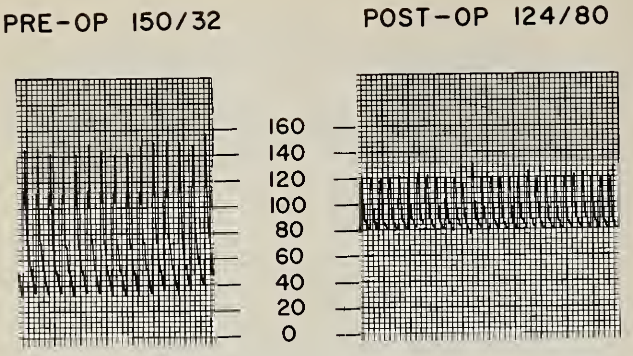

Figure 3.—Showing wide pulse pressure (mm of mercury) typical of aortic insufficiency, corrected by total valve replacement.

ciency, one with multiple large cusp fenestrations presumably due to a bacterial endocarditis. Four had predominant aortic stenosis with significant associated aortic insufficiency. Three patients had pure aortic stenosis (Figure 2). One death occurred four days postoperatively from an unexplained progressive low-output syndrome. Inability to perfuse the right coronary artery during the repair may have been a factor. There have been no late deaths. However, in one patient bacterial endocarditis which was successfully treated, developed four weeks postoperatively. There were no embolisms, although no anticoagulants were used.

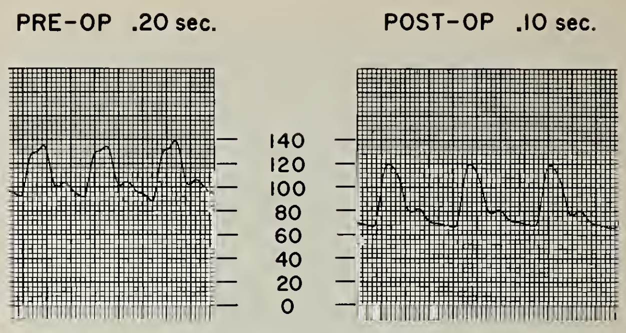

Figure 4.—Total replacement with the Starr-Edwards valve affords complete relief of the obstructive process and reurns contour of the arterial pulse tracing (mm of mercury) to normal. The rise time before operation was 0.20 second; after operation, 0.10 second.

DISCUSSION

As was previously noted, in a recent evaluation of the long-term results of the treatment of acquired calcific aortic stenosis by the debridement technique or subtotal replacement with prosthetic cusps it was noted that the obstructive process recurred in all cases.[2] Eleven patients were restudied by left heart catheterization 13 to 48 months postoperatively. Seven patients had undergone a debridement procedure with virtual abolishment of the gradient across the valve (Chart 1). Four patients had had one cusp excised and a prosthetic cusp inserted, as well as debridement of additional areas of calcifica-

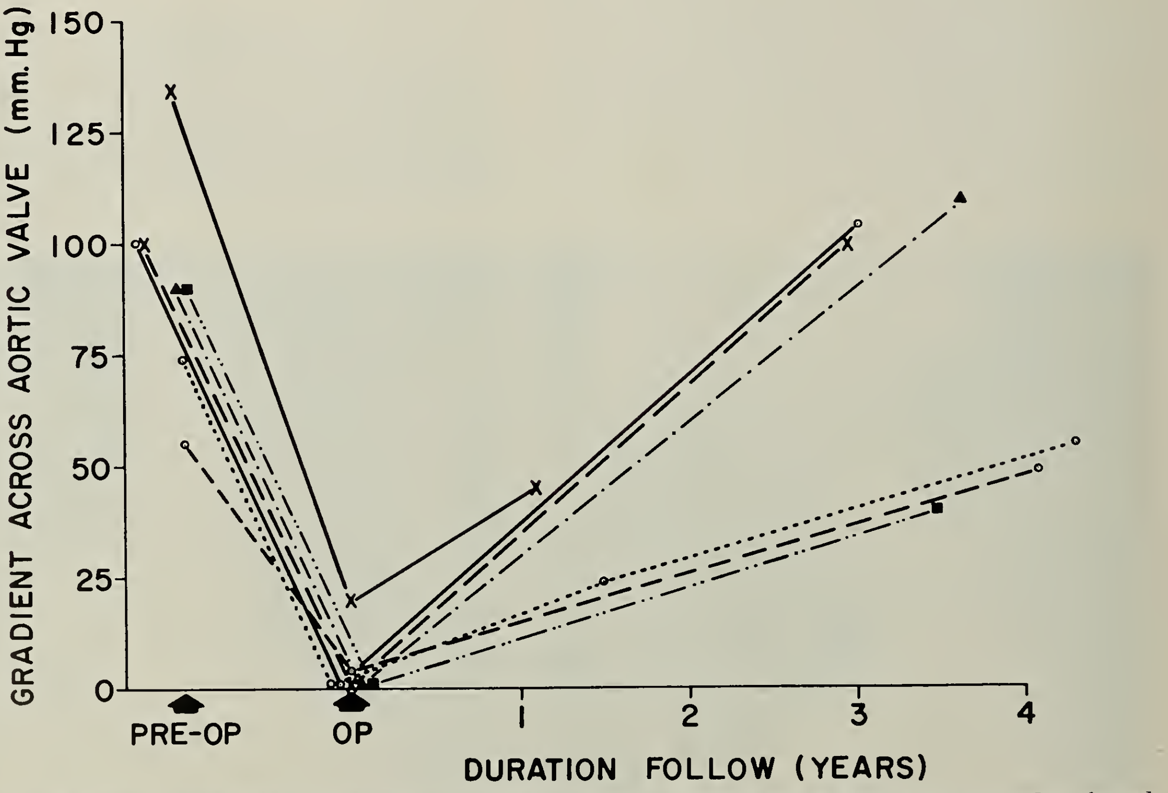

Chart 1.—Left heart catheterization results in seven patients who had undergone a debridement procedure for calcific aortic stenosis. Despite an excellent initial result, the obstructive process recurred to a significant degree in all patients within three years. (Reprinted with permission from J. Thor. & Cardiovasc. Surg. 46:468, 1963.)

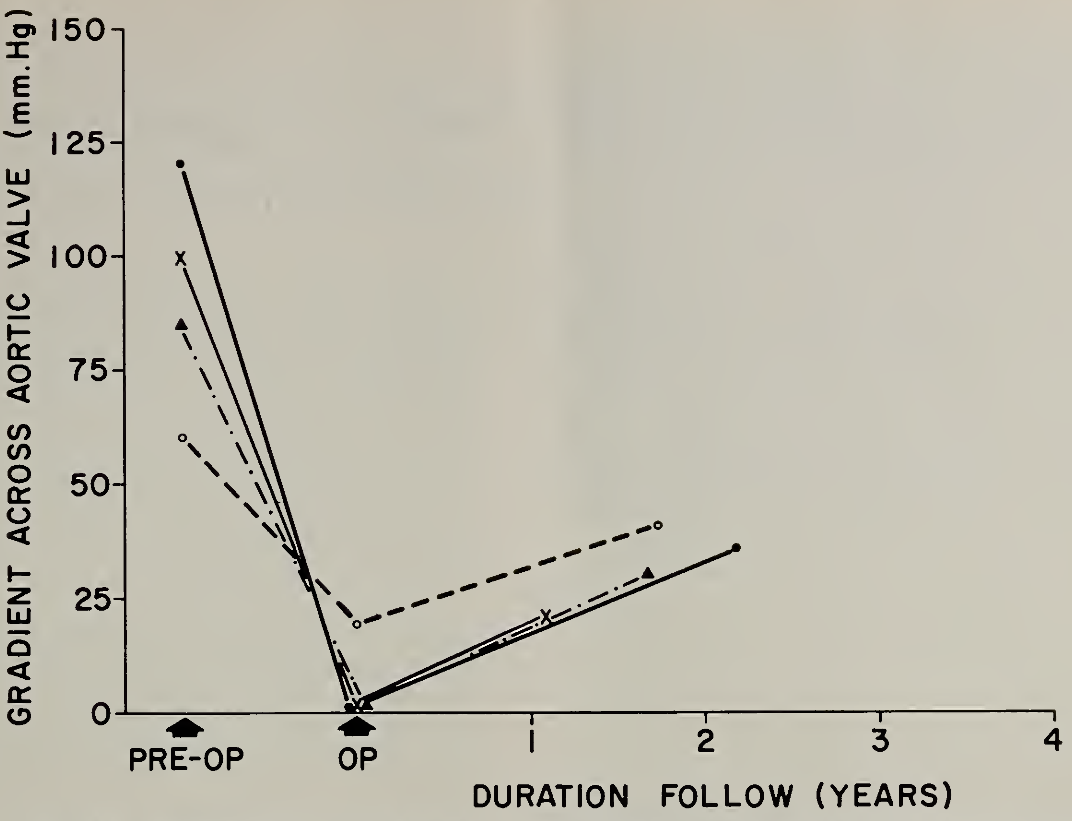

Chart 2.—Left heart catheterization in four patients who had undergone cusp replacement for calcific aortic stenosis. A similar trend toward restenosis had occurred within two years after operation. (Reprinted with permission from J. Thor. Cardiovasc. Surg. 46:468, 1963.)

tion (Chart 2). In each group, significant obstruction had recurred two to three years after operation nor was partial replacement with a Teflon cusp uniformly successful, because of stiffening, loss of pliability or even fracture of the fabric.[1]

Although patients with the Starr-Edwards valve have been followed a relatively short time, the accumulated experience to date has been quite gratifying. Decided improvement in hemodynamics has occurred in each instance. The wide pulse pressure typical of patients with aortic insufficiency has reverted to normal (Figure 3). Complete abolishment of aortic valve gradient and return of the arterial pulse contour to normal have been achieved in those patients with aortic stenosis (Figure 4). However, observations of these patients over a longer period will be necessary for a sound evaluation of the use of the Starr-Edwards valve in the treatment of acquired aortic valvular disease.

Departments of Surgery and Medicine, U.C.L.A. School of Medicine, The Center for the Health Sciences, Los Angeles, California 90024 (Mulder).

Addendum: Since this report was submitted 21 additional patients with aortic valvular disease have undergone valve replacement. There have been two operative and seven late deaths in the 30 patients now followed up to one year. Three deaths were due to bacterial endocarditis, one to progressive congestive heart failure, one to massive cerebral embolus, and two are unexplained, presumably related to an acute arrhythmia.

REFERENCES

1. Bjork, V. O., Cullhed, I., and Lodin, H.: Aortic valve prosthesis (Teflon): Two year follow-up, J. Thor. Surg., 45:635, 1963.
2. Mulder, D. G., Kattus, A. A., Fonkalsrud, E. W., and Longmire, W. P., Jr.: The surgical treatment of acquired aortic stenosis, J. Thor. Surg., 46:468, 1963.
3. Mulder, D. G., Kattus, A. A., and Longmire, W. P., Jr.: The treatment of acquired aortic stenosis by valvuloplasty, J. Thor. Surg., 40:731, 1960.
4. Starr, A.: Personal communication.
5. Starr, A., and Edwards, M. L.: Mitral replacement: Clinical experience with a ball-valve prosthesis, Ann. Surg., 154:726, 1961.
6. Starr, A.: Discussion of a paper by McGoon, D. C., Mankin, H. T., and Kirklin, J. W.: Results of open-heart operation for acquired aortic valve disease, J. Thor. Surg., 45:47, 1963.

Hospital Experience with Cardiac Resuscitation

H. RICHARD CASDORPH, *M.D., Ph.D.*, Long Beach

SINCE THE DEVELOPMENT and description of the closed chest technique for cardiac resuscitation in 1960 by Kouwenhoven, Jude, and Knickerbocker,[7] great impetus has been given to efforts at cardiac resuscitation. Although some complications of this technique have been reported,[2] there also have been many reports of successful resuscitation of persons who formerly would undoubtedly have died.[1,4-6]

During the past year cardiac resuscitation was brought into sharp focus at St. Mary's Hospital, Long Beach, by successful resuscitation of three patients who had cardiac arrest from ventricular fibrillation.

• In three cases of cardiac arrest in which resuscitation was successful, there were striking similarities. The patients were men with anterior myocardial infarction and the mode of cardiac arrest was ventricular fibrillation. Corrective action was begun promptly after arrest occurred. In each case vasopressor agents were required for three to five days after resuscitation before the cardiovascular system was able to maintain a normal blood pressure without this aid. Convalescence was satisfactory and each patient returned to his usual occupation.

The procedure that was used for cardiac resuscitation was based on artificial respiration (by any of several methods) and artificial circulation by external cardiac compression to provide a flow of oxygenated blood to the brain. Once this is established, time is afforded to determine what other steps are needed.

REPORTS OF CASES

CASE 1. Severe crushing pain in the anterior chest developed in a 40-year-old physician a few minutes after he had completed a minor surgical procedure in the hospital operating suite. Despite the intravenous administration of analgesics and anticoagulants and the administration of "coronary vasodilaters," the pain continued. At this time, blood pressure, pulse and respirations were within normal limits. Suddenly the patient stopped breathing and convulsion occurred. There was no evidence of cardiac activity. External cardiac massage was instituted, artificial ventilation was started by an anesthesiologist and an endotracheal tube was inserted. An electrocardiogram indicated ventricular fibrillation. A shock with the AC defibrillator stopped the fibrillation and the heart resumed a sinus rhythm. The patient wakened, talked and asked what had happened. After ten to fifteen minutes of consciousness, while monitoring with the electrocardiograph was being carried out, ventricular fibrillation returned and the patient again had a convulsion. Electric shock again restored sinus rhythm.

An electrocardiogram taken the following day was consistent with acute anteroseptal myocardial infarction. The serum glutamic oxaloacetic transaminase (SGOT) was 300 units (normal 10 to 40). The patient required an intravenous infusion of metaraminol (Aramine®) during the first three days in hospital to maintain normal blood pressure. He was dismissed in four weeks and at last report 17 months later he continued to carry out essentially normal activities in the practice of medicine.

CASE 2. In February 1962, a 60-year-old man came to the emergency room complaining of pain in the right side of the chest and radiating down the right arm. Within a few minutes the pain subsided, leaving only a "numb sensation" in the ulnar portion of the right hand. At that time the blood pressure was 125/80 mm of mercury. Approximately ten minutes later the patient suddenly stopped breathing and become cyanotic and there was no evidence of cardiac or respiratory activity. The neck veins were distended. External cardiac massage and artificial ventilation with a Bennett valve administering 100 per cent oxygen were carried out. Epinephrine was injected into the heart chamber. An electrocardiogram showed ventricular fibrillation. Shock was applied with the AC defibrillator at 480 volts for 0.25 seconds. After a short period of regular cardiac action, ventricular fibrillation recurred. Shock was again applied to the chest, restoring rhythm for a few minutes. Ventricular fibrillation again recurred and a third shock was applied. Regular cardiac action was restored and a few minutes later the patient resumed spontaneous respirations. Use of the Bennett valve then was discontinued. Forty minutes after the first episode of arrest the patient was talking and asked what had happened. Fifteen minutes later

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From the Departments of Internal Medicine and Medical Education, St. Mary's Long Beach Hospital, Long Beach.

Submitted October 16, 1963.

the blood pressure dropped to 90/60 mm of mercury and an intravenous infusion of metaraminol (Aramine®) was started. Figure 1 shows an electrocardiogram taken at the time of ventricular fibrillation and another obtained later the same day showing evidence of acute anterior septal myocardial infarction.

During the first four days in hospital the patient required metaraminol infusion intermittently to maintain a normal blood pressure. Other drugs used in the care of this patient included digoxin, procainamide (Pronestyl®), meperidine (Demerol®), heparin and bishydroxy-coumarin (Dicumarol®). On the day of cardiac arrest the SGOT was 15 units (normal 10 to 40 units) and on the following day it had risen to 150 units. After another two days it was 44 units. At last report, 15 months after the occurrence of myocardial infarction, the patient has continued to do well, and the only drug he was taking was Dicumarol for long term anticoagulant therapy. There was no limitation of physical activity.

CASE 3. A 55-year-old man was brought to the emergency room on November 22, 1962, with severe substernal constricting pain. Hyperventilation was pronounced. Shortly after entering the examining room, the patient suddenly stopped breathing and became decidedly cyanotic. At that time there was no evidence of cardiac activity and no heart sounds were audible. Cardiac resuscitation was instituted with external cardiac massage and artificial ventilation with an intermittent positive pressure machine. An electrocardiogram showed ventricular fibrillation. Shock with an AC defibrillator restored the cardiac rhythm. Then suddenly the heart stopped beating. Metaraminol (Aramine®) 10 mg, and epinephrine, 1 ml of 1:1000 solution, were administered intravenously and spontaneous cardiac activity gradually resumed. After approximately an hour and a quarter of cardiac resuscitation, the patient was able to maintain an adequate blood pressure with an intravenous infusion containing metaraminol. After resuscitation he breathed spontaneously, moved all his extremities and attempted to remove the face mask.

Figure 2 shows the electrocardiogram indicating ventricular fibrillation and the electrocardiogram obtained later the same day indicating acute anterior myocardial infarction.

The patient required metaraminol (Aramine) infusion during the first five days in hospital in order to maintain normal blood pressure. Other medication consisted of quinidine sulphate, warfarin (Coumadin), and digoxin. On the day after the occurrence of cardiac arrest the SGOT was 470 units (normal 10 to 40) and the serum lactic dehydrogenase was 2300 units (normal 200-680).

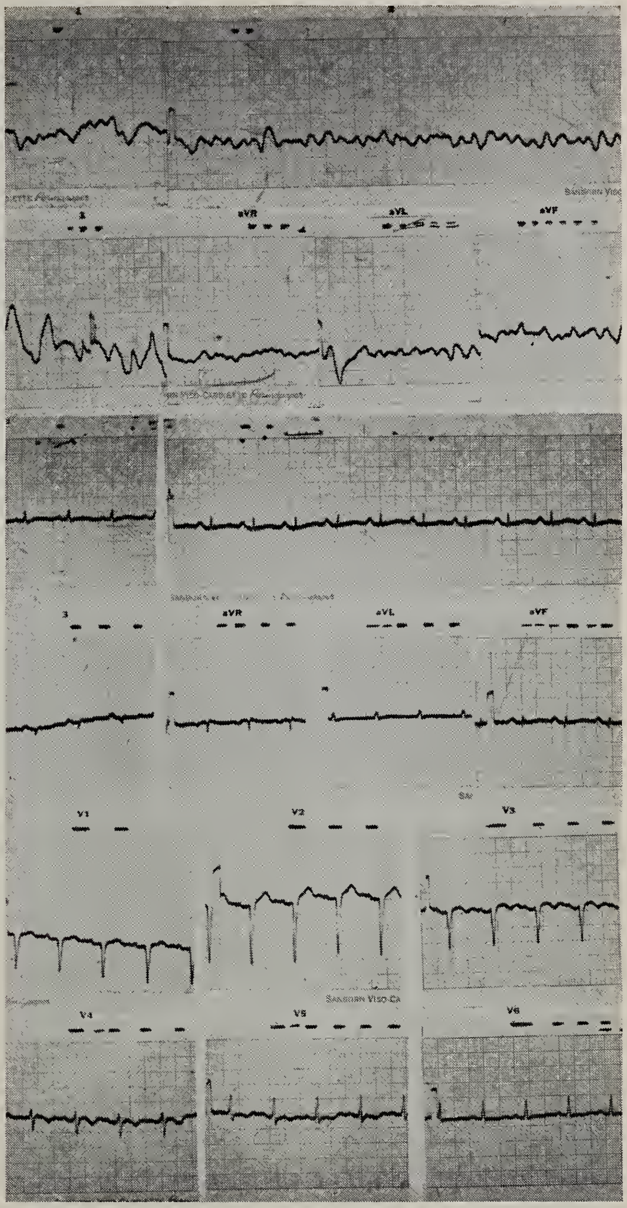

Figure 1.—(Case 2). *Above*, tracing indicating ventricular fibrillation at the time of cardiac arrest. *Below*, electrocardiogram obtained later the same day, following cardiac resuscitation, showing evidence of acute anterior septal myocardial infarction.

On November 27 the patient was transferred to a nearby Veterans Administration hospital where he convalesced apparently without complication. He was dismissed from that hospital December 31 with prescription of long term anticoagulant therapy.

In March 1963, the patient returned to the clinic at St. Mary's Hospital with complaint of difficulty in walking. He had a spastic gait and subsequently a neurological evaluation was done at Veterans Administration Hospital at Long Beach. At that time the long term anticoagulant therapy was discontinued and the patient was dismissed from that hospital in May with no complaints referable to cardiac disease.

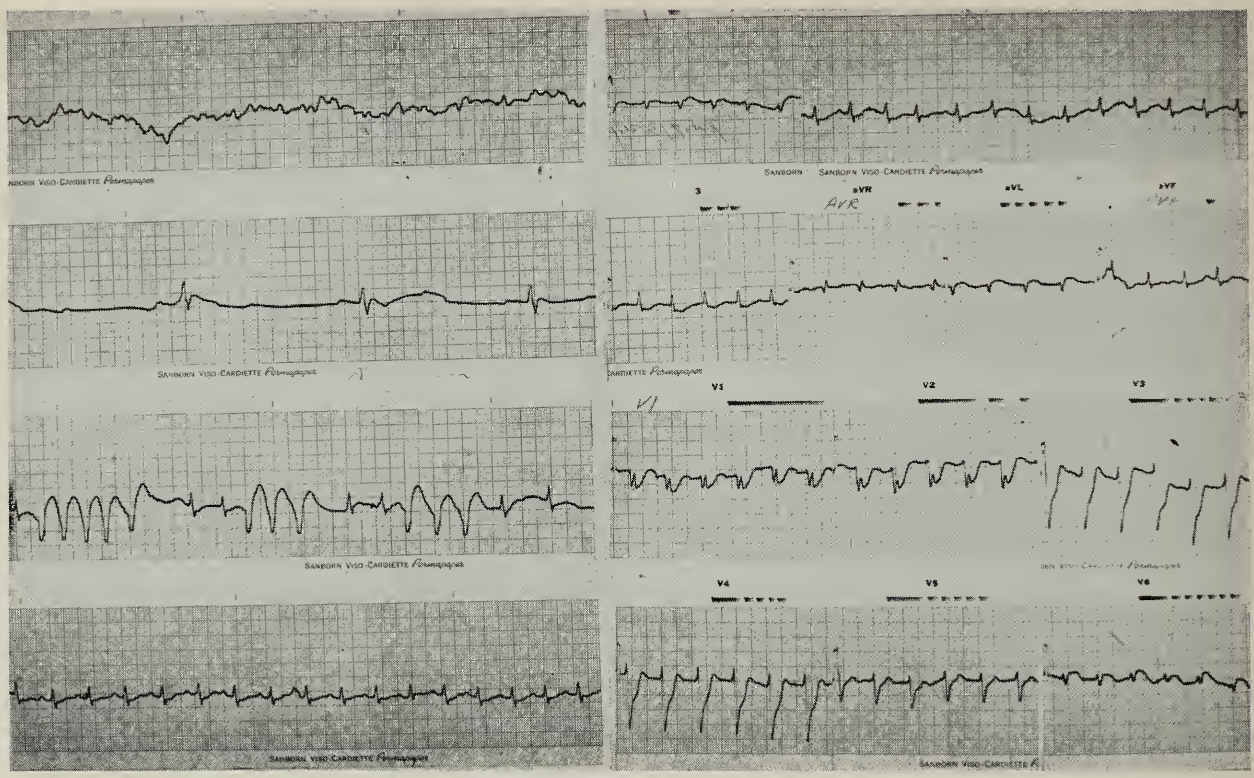

Figure 2.—(Case 3). On the left the top panel of electrocardiograms indicates ventricular fibrillation which was found to exist at the time of cardiac arrest. The strips of cardiogram under this were taken immediately after defibrillation and show various stages of recovery of the myocardium. Note evidence of ventricular irritability during the recovery phase. On the right is an electrocardiogram obtained later the same day. Comparison of this tracing with one obtained five months previously shows loss of amplitude of the R waves in lead AVL and all of the precordial leads. This was interpreted to be consistent with a recent anterior septal myocardial infarction with some involvement of the lateral and apical regions.

COMMENT

During the course of the year in which these three patients were successfully treated, there were other patients at the hospital who were resuscitated from cardiac arrest (either stand-still or ventricular fibrillation) but who for one reason or another eventually died of the primary disease.

There are several points of similarity in the three cases reported herein that are worthy of emphasis. In each case the patient was a man with anterior myocardial infarction. In each case ventricular fibrillation was the mechanism of the cardiac arrest and the corrective action was instituted quickly. In each case vasopressor agents were required from three to five days after the cardiac arrest before the cardiovascular system was able to maintain a normal blood pressure without this aid.

The use of epinephrine and other vasopressors, especially in the presence of ventricular fibrillation, is a subject that has been debated. Recently Redding and Pearson[8] concluded from a study on dogs that the intracardiac administration of epinephrine and some other vasopressor agents aids in the resuscitation from ventricular fibrillation. Their procedure was to inject these agents into the heart chamber before shock with the defibrillator was applied. They noted that in some cases the intracardiac injection of epinephrine may induce ventricular fibrillation, but that "external electric defibrillation usually restored circulation."[8] In the present cases, epinephrine was administered intracardiac before defibrillation in Case 2 while in Case 3 epinephrine and metaraminol were administered intravenously after defibrillation to treat cardiac standstill.

PROCEDURE FOR CARDIAC RESUSCITATION

The procedure for cardiac resuscitation currently advised at St. Mary's Hospital, Long Beach, is as follows: If no pulse is palpable and there is no evidence of cardiac action, strike the precordium forcefully with the fist. Occasionally a heart in asystole will respond to this stimulus.[3] If there is no response, proceed with resuscitation.

- Institute external* cardiac massage (artificial circulation) and artificial respiration as quickly as possible. The external cardiac massage method of Kouwenhoven, Jude, and Knickerbocker[7] is followed. The sternum is depressed 1 to 1½ inches, then the pressure is released, allowing the sternum to return to its original position. Repeat the cycle about sixty to eighty times per minute. Artificial respiration usually has been accomplished with the Ambu Valve and bag or an intermittent positive pressure machine respirator, with or without endotracheal tube. Inflate the lungs about twenty times per minute or as indicated. Use 100 per cent oxygen as soon as it is available.

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*Thoracotomy and internal cardiac massage[6] may be indicated when cardiac arrest is associated with severe trauma to the chest, especially if this is a penetrating wound.

We have been impressed recently with the advantages of endotracheal intubation and bag respiration. Anesthesiologist should be called for assistance.

- Obtain an electrocardiogram to determine the cardiac status—that is, whether the heart is in cardiac standstill or ventricular fibrillation. If an electrocardiogram is not immediately available, proceed with the next step, and administer epinephrine.

- If the heart is at a standstill and adequate cardiac activity does not begin to occur after a few minutes of resuscitation, inject epinephrine[9] intravenously or into cardiac chamber and continue cardiac massage. (When intracardiac injection is attempted, withdraw blood into the syringe before injection, to be sure the needle is in the cardiac chamber.) The intravenous route of administration may be used if it is immediately available and circulation is adequate. The optimal dose of epinephrine has not been established. Doses up to 0.5 mg (0.5 ml of 1:1000 solution) have been recommended.† There may be a danger of inducing ventricular fibrillation, even with these doses, especially in a hypoxic heart. When the intravenous route is used, injection may be extended over a period of several minutes. Occasionally, an external cardiac pacemaker may be used in this situation.

- If ventricular fibrillation exists, administer countershock with defibrillator. For external defibrillation with the AC defibrillator, voltages of 440 to 480 with a pulse duration of 0.25 second or longer are used. Repeated countershocks are usually necessary. After the heart has been defibrillated it frequently will revert to ventricular fibrillation, requiring repeated defibrillation.

If the heart cannot be defibrillated in this manner epinephrine may be administered[8] as previously described.

- Some physicians have administered electrolyte solutions, (for example, calcium chloride,[11] to increase irritability; potassium chloride,[11] to stop ventricular fibrillation) in refractory cases. In our experience to date, these solutions have not seemed to succeed when other measures failed.

- As soon as possible, start intravenous infusion so that vasopressors and other medications may be administered. Intravenous administration of sodium bicarbonate may be indicated to combat metabolic acidosis.

- Later hypothermia may be used after resuscitation in cases where neurologic damage has occurred.[10]

St. Mary's Long Beach Hospital, 509 E. Tenth Street, Long Beach, California 90813.

REFERENCES

1. Blalock, A.: External cardiac massage (Editorial) J.A.M.A., 176:609, May 20, 1961.

2. Cohn, L. H., and Sayer, W. J.: Multiple complications from external cardiac massage—report of a case, Cal. Med., 98:220-221, April 1963.

3. Estes, E. H. Jr.: The emergency management of acute cardiac arrhythmia and arrest, Med. Clin. N. Amer., 46:331-339, March 1962.

4. Editorial: Hearts too good to die, J.A.M.A., 176:141-142, April 15, 1961.

5. Gillespie, L. and Thompson, J. L.: Cardiac resuscitation in myocardial infarction., J.A.M.A., 185:44-47, July 6, 1963.

6. Jude, J. R., Kouwenhoven, W. B. and Knickerbocker, G. G.: Cardiac arrest, J.A.M.A., 178:1063, 1961.

7. Kouwenhoven, W. B., Jude, J. R. and Knickerbocker, G. G.: Closed-chest cardiac massage, J.A.M.A., 173:1064-1067, July 9, 1960.

8. Redding, J. S. and Pearson, J. W.: Evaluation of drugs for cardiac resuscitation, Anesthesiology, 24:203-207. Mar.-Apr., 1963.

9. Redding, J. S. and Pearson, J. W.: Resuscitation from asphyxia, J.A.M.A., 182:283-286, October 20, 1962.

10. Spencer, F. C., and Yates, A. J.: The use of hypothermia after cardiac arrest, anesthesia and analgesia, 386:423-428, Nov.-Dec. 1959.

11. Wood, D. R.: Pharmacological considerations in cardiovascular resuscitation, Brit. J. Anaesthesia, 33:490-497, October, 1961.

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† Redding and Pearson have used 1.0 mg of epinephrine (intracardiac) in cardiac resuscitation in dogs.[8]

The Present Status of Retrolental Fibroplasia

J. M. JORDAN, *Captain, M.C. U.S.N.,* **San Diego**

• The incidence of retrolental fibroplasia in premature babies has been greatly reduced since the curtailment of oxygen concentration and exposure time. However, in infant care, cases still occur in premature infants who have respiratory distress and cyanosis. The incidence is lowest where oxygen in excess of 40 per cent is never administered, regardless of the status of the infant.

The mechanism by which oxygen causes obliteration of retinal vessels has not been discovered. A sampling of teaching institutions revealed that more than 30 cases have been seen since 1959.

RETROLENTAL FIBROPLASIA was first described by Terry in 1942. During the next decade this disease became the subject of many etiologic investigations, and few congenital or environmental factors associated with either the mother or the infant escaped consideration as possible causes. During that same ten-year period retrolental fibroplasia became the greatest cause of blindness in children.

Ashton,[1] reviewing the experimental work which was done between 1951 and 1957, said, "Careful control of oxygen administration to premature babies has now proved so effective in preventing retrolental fibroplasia that the disease becomes of less and less significance, and to the clinician will soon be no more than a closed chapter, whereas the question of the mechanism by which oxygen influences immature retinal vessels appears increasingly complex and to the laboratory worker assumes growing importance."

High oxygen concentration at atmospheric pressure can obliterate ingrowing vessels in the developing retina of kittens, puppies, ratlings and newborn mice, all of which have retinas similar to man anatomically and developmentally. Direct observations of living retinal vessels in kittens showed that obliteration of vessels begins in the periphery, where they are actually growing and the retina is more immature, and advances toward the disc. The arterioles and the arterial side of the capillaries are first to obliterate. This is followed by a disappearance of the entire capillary bed, then of the main arteries and main veins, leaving an apparently avascular retina. This process occurs only in retinal vessels and not in other vessels of the eye or elsewhere in the body. This has been investigated in vascularized corneas, in the ear chamber of rabbits and in chick and rat embryos. There was no effect on retinal vessels of kittens when pregnant cats were placed in oxygen of high concentration during the last four to seven days of gestation. Histopathologic examination of retinas revealed no tissue change other than vessel obliteration. No degeneration of the retinal elements was observed. This work was confirmed by Gyllenston and Hellstrom in mice.[1] After transfer of the animals to air, intense angioblastic activity occurred in the inner layer of the retina with vascular formative tissue and new vessels in the vitreous. But no degeneration occurred in retinal neuronal elements, and there was no detachment of the retina.

The factors influencing the vascular obliterative phase and the vascular proliferative phases of the disease are:

1. *The degree of maturity of retinal vessels.* The severity was inversely proportional to the maturity of the retinal vessels. Once the retinal circulation was fully established and normal vascular architecture was attained, oxygen did not bring about significant obliteration and had no structural effect on the vessels.

2. *The duration of exposure to hyperoxia.* Vascular obliteration was moderate after 12 hours of exposure, severe after 24 hours; and total obliteration occurred after 36 hours. This process occurred in two phases. The immediate phase, severe constriction of the large vessels and obliteration of the capillaries, occurred after five minutes. Then the vessels dilated again after ten minutes in continuous oxygen and continued to be patent for six hours, after which time vascular constriction again occurred and slowly progressed until obliteration was total.

3. *The concentration of oxygen.* Concentrations of oxygen of less than 40 per cent were innocuous to experimental animals but the margin of safety was narrow.

4. *The influence of retinal detachments.* With retinal detachments, vascular obliteration could not be produced with continuous oxygen up to four days. Retinas in which the vessels were obliterated again became patent when retinal detachment developed.

Presented before the Section on Eye at the 92nd Annual Session of the California Medical Association, Los Angeles, March 24-27, 1963.

From the U.S. Naval Hospital, San Diego. The expressions contained in this article are those of the author and do not necessarily reflect the opinions of the military establishment.

Retinal detachments in developing kittens caused the vessels to grow through the entire thickness of the retina, producing a network on the outer surface. Vessels also grew into the vitreous with glomerular tufts. This proved that apposition of the retina and choroid are necessary for vascular obliteration to occur and for normal retinal growth.

5. *Sympathectomy* had no effect.

6. *Carbon dioxide concentration* in strength of 5 per cent had no influence on either vascular obliteration or vascular proliferation.

7. *The mode of transfer from oxygen to air.* No difference in degree of vascular proliferation occurred between animals that were abruptly removed from oxygen and animals that were "weaned" over a three-day period from concentrations of 70 to 80 per cent oxygen.

8. *Effect of re-oxygenization.* Ashton returned kittens in the vascular proliferative stage to the same level of hyperoxia that produced the vascular obliteration. Some control of the vascular proliferative phase occurred but on return to air the vascular proliferation again recurred, with no curative or therapeutic value noted.

Since retrolental fibroplasia does not develop in all premature infants after oxygen exposure and since human disease differs from experimental lesions, other factors might be contributory.

In experimental work, low oxygen concentration with survival did not induce retinal hypoxia of sufficient degree to bring about vascular proliferation in the developing retina.

There is considerable evidence that oxygen is of a fundamental importance in control of normal retinal vascularization. The capillary-free zone around arteries and the vessel-free outer layers of the retina adjacent to the choroid both point to such a conclusion, which is reinforced by the modifications which can be induced experimentally—that is, the narrowing of the peri-arterial capillary-free zone that can be induced by lowering the oxygen tension and the widening of the zone by increasing the oxygen tension. Another pertinent phenomenon is vascularization of the outer layers of the retina in detachments of the developing retina. That oxygen tensions above the normal range should close developing retinal vessels and that concentrations below normal should excessively stimulate their growth appear, therefore, as manifestations of either extreme of a single normal process.

Ashton and his group, continuing their search for an explanation of the mechanism of the oxygen-induced vascular obliteration, were unable to conclude that inhibition or derangement of the metabolism of the developing retina caused vascular obliteration. No evidence was found that vascular obliteration is caused by pressure of retinal edema or by fluid inhibition.

Ashton's latest studies[2] with the electron microscope provide evidence that the endothelium of the retinal vessels of a kitten undergoes direct degeneration following exposure to hyperoxia. No changes were found in any other retinal cells, even those directly adjacent to the endothelium. In the report of the cooperative study published in the *Archives of Ophthalmology* in 1956, Kinsey[4] reported that the mortality rates in routine and curtailed oxygen did not differ significantly. The incidence of active stages of retrolental fibroplasia in the routine oxygen group was approximately twice that in the curtailed oxygen group. The incidence of cicatricial grades of the disease in the routine oxygen group was approximately three and a half times that in the curtailed oxygen group.

The incidence of both active and cicatricial forms of retrolental fibroplasia was less for infants of single birth than for those of multiple birth. The incidence of cicatricial grades of retrolental fibroplasia in infants of both single and multiple births who were in the routine oxygen group increased rapidly with increased duration of exposure to oxygen.

A conclusion that may be drawn is that the length of time that premature infants are kept in an oxygen enriched environment is an important factor in the production of retrolental fibroplasia. Limiting the duration of oxygen to that deemed necessary to meet frank clinical emergency was shown to be without effect on the survival rate of premature infants. For all practical purpose there is no concentration of oxygen in excess of that in air that is not associated with the risk of developing retrolental fibroplasia. The length of time that premature infants, particularly infants of multiple birth, are kept in an environment containing oxygen concentrations in excess of that in air should be kept to an absolute minimum, consistent with clinical indications of anoxia. When oxygen therapy is clearly required it should be prescribed on an hourly basis and the concentration should be as low as possible. Kinsey also said that in view of the positive evidence indicating that even relatively short exposures to oxygen are associated with retrolental fibroplasia (even though the concentration is kept below 40 per cent) and the further positive evidence that there is not any critical concentration below which retrolental fibroplasia is much reduced in incidence, merely restricting the concentration of oxygen, without limiting the time of exposure, may result in unnecessary cases of retrolental fibroplasia. Certainly, the emphasis should be placed on restricting the duration in oxygen to an absolute minimum consistent with the clinical indication of anoxia, irrespective of the concentration of oxygen administered. Shortly after pediatricians began restricting the concentration and duration of oxygen therapy to premature infants, the incidence of retrolental fibroplasia dropped precipitously and what was once the main cause of blindness in children became a relative rarity. In 1960 Zacharias[6] of the Massachusetts Eye and Ear Infirmary commented on the reduction in the interest and investigation of retrolental fibroplasia in recent years as a result of the reduction in the frequency of the disease following more controlled oxygen management. At the Boston Lying-In Hospital Zacharias found fewer babies requiring supplementary oxygen, and they for shorter periods. In 1954, 88 per cent of the infants under four pounds were given supplementary oxygen; in 1958 only 48 per cent received this treatment. In 1954 the average number of hours was 92 per infant; in 1958 it was 15 per infant. This resulted in a significant reduction in mild retrolental fibroplasia as well as in the cicatricial form. Zacharias observed that it was not possible to know whether the maximum reduction of oxygen therapy had been reached, but she assumed that there would be some infants who would continue to need oxygen for survival. Of particular interest was the fact that they had found records in the past few years of several cases of retrolental fibroplasia in infants who insofar as they had been able to learn had received no supplemental oxygen. In five such infants the retrolental fibroplasia was mild; in one the damage was severe. In two other cases, infants showed retrolental fibroplasia after only 11 hours in oxygen, and one severe case developed in an infant who received supplementary oxygen for only seven hours. These occasional cases in infants who received little or no oxygen suggest that there is some other causative mechanism. Chisholm[3] in 1960 expressed a similar sentiment, stating that although the control of oxygen has resulted in a decided reduction in incidence of and in interest in retrolental fibroplasia, the appearance of sporadic cases in premature or in term babies not treated with oxygen calls attention to the fact that the cause of the disease is not fully known.

In 1962 in San Diego three new cases of retrolental fibroplasia were seen. All the patients were born after June 1961. One weighed two pounds, nine ounces, was in 40 per cent oxygen 15 hours and was discharged from the nursery at age 65 days with no noted defect. Examination six months later revealed retrolental fibroplasia with total detachment of the retina of the right eye and cicatricial bands in the retina of the left eye. The second, born three months premature, weighed two pounds, one ounce. He had pronounced respiratory difficulty, with cyanosis. He was in oxygen concentration varying between 30 per cent and 36 per cent for 16 days, after which he received intermittent oxygen for 14 days. Bilateral cicatricial retrolental fibroplasia developed. The third patient is bilaterally blind with the retina in each eye completely detached. He was born at six months' gestation and the birth weight was two pounds, three ounces. Details of oxygen administration are not available.

In an attempt to find out whether retrolental fibroplasia was being seen in other areas, letters were written to the ophthalmology and pediatric departments of teaching centers throughout the country as well as the appropriate departments of large hospitals in an effort to determine what the incidence of retrolental fibroplasia is at present. From Los Angeles Dr. Warren Wilson[5] reported having seen two cases in consultation since 1959. One case was reported from UCLA Medical Center and one case from the premature clinic at White Memorial Hospital. Dr. Jerome Bettman[5] reported no known cases from the San Francisco area. However, he had observed one case from the Oakland area. Dr. Frank Costenbader[5] of Washington, D.C., reported that he sees approximately one case in two years at the present time and that these are usually abortive rather than full blown. Dr. Joseph Wadsworth[5] said an occasional case is still being seen at the Children's Clinic in the Columbia Presbyterian Eye Institute. The Cornell University[5] Department of Pediatrics reported one case since 1960; it was of Grade II severity and it completely resolved. Dr. Leona Zacharias[6] of the Massachusetts Eye and Ear Infirmary said that she has collected records of eight cases since 1958. One of the patients was born in 1958, two in 1959, two in 1960, one in 1961 and two in 1962. Her records were collected from Massachusetts, Rhode Island and Connecticut, and in all but one instance the babies were born in small hospitals. Dr. Robert Drews[5] said that about two cases every three years are seen in St. Louis and that the babies usually are born outside of the city and referred for evaluation. Two patients with the disease have recently been seen in Chicago at the Children's Memorial Hospital.[5] Dr. Harold Scheie[5] reported that he still sees an occasional case. In the Pediatrics Department of the University of Pennsylvania two cases have been seen since 1960. One case was reported from the Philadelphia Naval Hospital[5] and one from Winston-Salem, North Carolina.[5] Dr. Harold Falls[5] of the University of Michigan reported that he has seen three to five new cases of retrolental fibroplasia a year since 1960. He pointed out that the University of Michigan draws cases from the entire State of Michigan.

Twenty teaching departments of pediatrics were queried on their method of handling premature infants in respiratory distress. Fourteen of them reported that they would give oxygen above 40 per cent for the shortest time necessary to provide relief from central cyanosis, then reduce the concentration as rapidly as possible. Six of these 14 institutions reported having seen retrolental fibroplasia in some degree since 1960. Six teaching institutions report that they never permit oxygen above 40 per cent regardless of the condition of the infant. One of these reported one case of Grade II retrolental fibroplasia in an infant born at that institution. Two others reported having had cases of retrolental fibroplasia in their children's clinics but did not indicate that the infants were born and treated in their premature nursery.

Dr. Naomi Pitman,[5] associate professor of pediatrics at Loma Linda University in Los Angeles began a study two years ago in which she contrasted the survival of small premature infants, one group of which received no supplemental oxygen while the second group was given 40 per cent oxygen for the first 48 hours of life. Although the difference was not considered significant, the mortality was higher in the group that received supplemental oxygen, and the classical hyalin membrane disease also appeared in those receiving oxygen. She said that it is her opinion that there has been a tendency over the country to give higher oxygen levels to babies with cyanosis or hyalin membrane disease with the thought that in these instances it was not toxic to the infant. However, she believes that retrolental fibroplasia is again increasing. Two years ago she began her study on prematures weighing less than 1500 grams. Half of them received 35 to 40 per cent oxygen, the other half received atmospheric air. It is her opinion that 35 to 40 per cent oxygen may be toxic, perhaps as well as being therapeutic for a time to the immature lung.

Retrolental fibroplasia is still occurring in premature infants who receive oxygen therapy. The only positive gain since the restriction of oxygen therapy has been a progressive decrease in the amount of oxygen therapy used. There is evidence that oxygen therapy does not increase the survival rate of the premature.

Retrolental fibroplasia then is one of the many hazards which confront the premature. All authorities agree that the conditions under which the human fetus develops best are found within the healthy maternal uterus. Here with his fetal circulation and fetal hemoglobin the fetus develops with blood oxygen saturation of approximately 50 per cent. All body functions except growth and circulation are performed by the mother. When forced into the outside world by premature birth the baby has to fight for his survival with underdeveloped organ systems.

One might wonder why no effort has been made to duplicate the intrauterine conditions. In this electronic age of heart lung machines and artificial kidneys, could not perfusion of the placenta supply the fetal needs and permit him to continue his development in a more natural manner for a few days or weeks until able to adapt to the outside world?

U.S. Naval Hospital, San Diego, California 92134.

REFERENCES

1. Ashton, Norman: Experimental retrolental fibroplasia, Annual Review of Medicine, Stanford University, 1957.

2. Ashton, Norman, and Pedler, C.: Studies on developing retinal vessels, British J. Ophthal. 46:257-276, May 1962.

3. Chisholm, Julian F.: The progressive changes in the pathology of early retrolental fibroplasia, Am. J. Ophth., 49:1155-62, 1960.

4. Kinsey, V. Everett: Retrolental fibroplasia—Cooperative study, Arch. Ophth., 56:481, 1957.

5. Personal communications.

6. Zacharias, Leona: Incidence of retrolental fibroplasia, Pediatrics, 25:726, 1960.

Children with Epilepsy

A Study of Their Needs in California

HARRY E. HOWARD, *M.D., M.P.H.*, and ROSIE FUJIKAWA, *M.S.W.*, Berkeley

• The 1959 California Legislature directed the State Department of Public Health to conduct a study of the needs of California children with epilepsy and to determine the costs and feasibility of including medical services to such children under the Crippled Children Services program. A demonstration program of services was provided in Contra Costa and San Bernardino counties. Under these programs, children suspected of having epilepsy were referred for specialists' examinations, tests and recommendations for treatment.

Private physicians provided the largest portion of a total of 236 referrals. Children referred were found to have complex medical, social and educational problems, and to be in need of comprehensive diagnostic and treatment services.

About half of the children had mixed epilepsy and over one-third had focal seizures. Two-thirds had at least one other major additional handicap. At the time of referral one-fifth of these children had one or more seizures daily.

Through specialized care and medications provided under this project, 58 per cent of those with seizures became seizure free, and an additional 24 per cent showed a considerable reduction of seizure frequency.

This project provided a practical method of obtaining information necessary for program planning and has also demonstrated the value of such a program in helping private physicians to meet some of the multiple problems presented by these children.

AN ACT[3] OF THE 1959 California Legislature directed the State Department of Public Health to conduct a three-year research study of the needs of California children with epilepsy and to determine the need, costs and feasibility of broadening the Crippled Children Services program of diagnostic, consultative and treatment services to include children handicapped by epilepsy. Testimony[5] pointing up the need for such services had been presented to the Legislature in 1957 and 1958 by physicians, representatives of health departments and leaders of voluntary agencies interested in handicaps of children. Because neither the number of children needing such services nor the quantity of services could be accurately estimated for the entire state, it was decided to establish a pilot demonstration program in two geographical areas in order to anticipate the needs and costs for such services on a statewide basis.

The Epilepsy Study Project team was assembled in 1960 to implement this legislation, and the following major objectives were established:

1. To determine the number and kind of children with epilepsy who need diagnostic and treatment services under Crippled Children Services.

2. To determine the kinds of services needed, and the costs, problems, and results of providing such services.

3. To determine the level of social functioning of these children and their families.

In order to gather the data and information required by the legislation and these objectives, demonstration programs of diagnostic and treatment services were established in Contra Costa County in the north and in San Bernardino County in the south. These counties had a population of such size that the expected case loads could be diagnosed and treated within the amount of the appropriation. Each of them had a health department which was aware of the problems of epilepsy and was willing to cooperate with the State Health Department in providing this care on a pilot basis.

PROVISION OF SERVICES

The services which were provided in Contra Costa and San Bernardino counties were developed after study of programs in other states and after consultation with epilepsy specialists in medical centers in California. The program of services began in Contra Costa County in October, 1960, and in San Bernardino County in May, 1961, although referrals were accepted before these dates. The policy of diagnostic, consultative, and treatment services has been similar to that of other operating programs under Crippled Children Services.

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DIAGNOSTIC SERVICES PROVIDED

1. Diagnostic pediatric examination.
2. Neurological consultation.
3. Examination by other specialists as indicated.
4. Laboratory studies (including electroencephalogram).
5. Psychological evaluation of pre-school children and school age children when not available from the schools.
6. An assessment of the social functioning of the family and the child.
7. Case conference.
8. Interpretation conference with parents and child.

All children received special diagnostic examinations by designated pediatrician specialists interested in epilepsy. In Contra Costa County, a neurologist also examined all children and provided consultation to the pediatrician on all cases during the first year of operation. Later, the neurologist provided consultation only on referral by the pediatrician for difficult or problem situations. In San Bernardino County, the pediatric specialist had had extensive training and experience in the field of childhood epilepsy, and a neurologist's consultation was rarely utilized. It was necessary for some children in both areas to have consultative examinations by other specialists such as psychiatrists, ophthalmologists and neurosurgeons.

Routine diagnostic laboratory studies were obtained from local laboratories and hospitals, and included a complete blood count, serological test for syphilis, urinalysis (including the phenylketonuria test), tuberculin skin test and an electroencephalogram. Other appropriate tests that were carried out when indicated included x-ray films of the skull, glucose tolerance tests and spinal fluid examinations.

A few children had received some recent diagnostic tests at the time of referral by their private physicians and these were not repeated. Additional tests were then carried out to complete the examination.

Psychological evaluations were performed by local psychologists with special experience in testing handicapped children. These clinical psychologists utilized a battery of screening tests to determine performance in the areas of intelligence, perceptual-motor functioning, associative learning, problem-solving and academic achievement.

The assessments of social functioning of each family and selected children were performed by the medical social worker of the Epilepsy Project staff, who interviewed the parents by utilizing a specially developed guide[2] in examining five specific areas of family functioning: Adult, marital, financial, child-rearing and child functioning.

The case conference, which had been one of the most important features of this program of services, was held after the initial diagnostic studies were completed. Participating in this conference were the pediatrician, neurologist, social worker, public health nurse and in most instances the psychologist. The child's private physician was invited to attend and participate and was reimbursed for his service. The child's teacher, school principal, counselor and/or school nurse, and when appropriate, representatives of social agencies (welfare and probation departments, vocational rehabilitation services) were also invited to this conference. The reports of the specialists of the various disciplines who had examined the child and his family were reviewed and discussed by members of the conference, and if possible, a final diagnosis was made. The planning of treatment and coordination of services to meet identified needs was carried out and the responsibility for follow-up was assigned. During these conferences, inter-professional communication and education took place, making available to referring physicians the Project's diagnostic findings of their patients and current principles of diagnosis and treatment of persons with epilepsy. The increased understanding of the child's condition by his teacher was important to the child's education. It was also important for the teacher to be able to teach a modern understanding of epilepsy to the child's classmates, particularly if seizure symptoms should occur during classtime.

After the case conference, both the mother and the father were urged to attend an interpretation conference with the examining physician.[1] Time was provided to discuss and interpret the findings, conclusions and recommendations of the case conference, to answer the many questions that often arise as to the medical and social implications of the diagnosis of epilepsy, and to emphasize the need for continuous medical supervision and anti-convulsant drug therapy for many years. This visit with the parents and the child himself was found to be an important adjunct to the other services provided; it implemented the cooperation and understanding of the family of the child's medical and social needs.

The families of children who did not have epilepsy were also provided with an interpretation conference and were assisted in finding the appropriate resources for their child.

According to Crippled Children Services' procedure, a financial eligibility determination took place at this point to determine the family's need for assistance. Treatment services which included medical supervision, anti-convulsant drugs, appropriate periodic complete blood cell counts and uri-

TABLE 1.—*Sources of Referral of Patients Receiving Diagnostic Services under Epilepsy Study Project*

	Contra Costa County (180 Patients)	San Bernardino County (56 Patients)
	Per Cent	
Private physician	43	29
Public health nurse	22	29
School	14	18
Health department clinic	6	9
County hospital	4	....
Other*	11	15

*Includes other official agencies, voluntary agencies, friends, self, etc.

nary albumin testing, were provided these children by the program if the financial eligibility criteria were met. Some families made partial payment reimbursement plans. Children who had been referred for consultation only, or who were found not to be in financial need, were returned to their referring private physician. Those whose families were in financial need were assigned to the epilepsy specialist for follow-up care. When their medication and seizure control were stabilized, they were returned to their private physician, and the cost of such care was provided by the program.

FINDINGS

Diagnostic services were provided to 236 children from 228 families in the two-year period.

On the basis of various prevalence studies,[7, 8, 14] it was estimated that in Contra Costa County there were 650 to 880 children with epilepsy out of a total population of 409,030, and in San Bernardino County 750 to 1,030 in a total population of 503,591.[4] During the two years, 180 children received diagnostic services in Contra Costa County, which represented 10 to 16 per cent of the population estimated to have epilepsy each year. In San Bernardino County, 56 children or 2 to 5 per cent received such services.

Parents learned about the Epilepsy Project from many sources, the most frequent being private physicians, public health nurses and the schools (Table 1). In Contra Costa County, the early referrals were primarily from the latter two sources, but after the initial period, physician referrals increased and accounted for a steady flow of patients. In this county physicians were responsible directly for over 40 per cent of the referrals, and they assisted indirectly in bringing a number of others to the program where the family had learned of it from another source.

In San Bernardino County, physicians referred fewer than 30 per cent of the cases, while public health nurses and schools accounted for a slightly higher proportion than in Contra Costa County.

TABLE 2.—*Medical Care Status at Time of Referral of Patients Receiving Services under Epilepsy Study Project*

	Contra Costa County (180 Patients)	San Bernardino County (56 Patients)
	Per Cent	
Not currently under medical care	8	30
Currently under medical care	92	70
Never treated for epilepsy	36	25
Previously treated for epilepsy but treatment lapsed	8	14
Currently under treatment	49	30

TABLE 3.—*Seizure Control Status of Patients at Time of Referral to Epilepsy Study Project*

	Contra Costa County (180 Patients)	San Bernardino County (56 Patients)
	Per Cent	
Currently under treatment	49	30
Not under control	42	28
Controlled; referred because of financial need	7	2

Toward the end of the study period, physician referrals as well as referrals from other sources in San Bernardino County had increased as the availability of services became generally known.

At the time of referral to the Epilepsy Project, the public health nurses inquired as to the medical care status of the patient (see Table 2) and listed the name and address of the child's physician, if any, as well as the source and dates of previous treatment for epilepsy.

A child was considered to be "currently under medical care" if his family named a private or clinic physician to whom they would take a child if they felt that he needed medical care. If the family had been to a physician recently the child was considered "currently under medical care," although the family may not have considered that they had a personal physician. In Contra Costa County, 8 per cent of the children were not currently under medical care, and of these, one in four had never been treated for epilepsy. In San Bernardino, however, 30 per cent were not under medical care, and of these, almost half had never been treated for the condition which brought them to the project.

A child was considered as "never treated for epilepsy" if he had never received any care for his epilepsy from any physician.

In Contra Costa County, over 90 per cent of the families reported they had a physician to whom they took the child for medical care, but for over one-third of these children this physician had not treated the child for seizures. In San Bernardino County, 70 per cent of the children were currently under medical care at time of referral, and here too more than one-third of them had never been treated for epilepsy.

TABLE 4.—*Types of Epilepsy in Patients Receiving Diagnosis under Epilepsy Study Project (Information available for 169 patients)*

Single Types	Per Cent	
Non-Focal and other		
Grand Mal	33	
Petit Mal	6	
Minor motor and other types	5	
Non-Focal total		44
Focal		12
Total		56

Mixed Types	Per Cent
Grand and Petit Mal	15
Focal, combined with other type[s]	25
Other combinations	4
Total	44

TABLE 5.—*Per Cent of Patients With Additional Handicapping Conditions (Information available for 169 patients)*

	Per Cent
None	34
Mental retardation	37
Severe emotional problems	25
Cerebral palsy	17
Minimal cerebral dysfunction	16
Blindness	2
Deafness	2
Other central nervous system, sense organ lesions	10
Other conditions	10

Forty-nine per cent of the Contra Costa County children were currently under treatment for epilepsy at the time of referral (Table 3), but in nearly all of these cases control of the seizures had not been achieved. Of the 30 per cent of the San Bernardino County children who were under treatment, only one child was found to have seizures under control at the time of referral.

Almost half of the children diagnosed as having epilepsy under the program have a mixed variety, that is, two or more different types of seizure patterns (Table 4). Epilepsy of this kind is more complicated and more difficult to diagnose correctly and to treat properly than is that with a single type of seizure.

Thirty-seven per cent, or about one out of every three children in this program, have a focal type of seizure pattern, both as a single and as a mixed diagnosis. This kind of epilepsy is found most often in children who have a history of brain injury or other intracranial disease,[9, 10] which again points up the fact that many of the children served by this program have the secondary or symptomatic type of epilepsy, with more evidence of cerebral involvement, as we will note further. Consequently they have more problems and difficulties. They also may require close follow-up examinations over a long period to determine whether the seizure is an initial symptom of a progressive neurologic disease (neoplastic or degenerative) or if a static lesion such as an atrophic focus.[6]

Two out of three of the children who were diagnosed as having epilepsy had other handicapping conditions (Table 5), which of course add to the difficulty of treating their seizures. The principal associated handicapping condition was mental retardation. The criteria used to designate retardation was an intelligence quotient determination of less than 70 or the statement by the examining psychologist that the child was retarded.

There were 199 handicapping conditions in addition to epilepsy in those 169 children diagnosed as having epilepsy. Thirty-four per cent had no other conditions. One-third had two or more handicapping conditions.

Severe emotional problems were found in 25 per cent of the children with epilepsy. A child was considered to have a severe emotional problem if it was determined that he was having difficulties in relating to his parents, the school environment or his peers to such an extent that he needed casework services or psychiatric care.

Minimal cerebral dysfunction was diagnosed in 16 per cent of children with epilepsy. The child with minimal cerebral dysfunction is one who as a probable result of brain damage, impairment or selective brain immaturity has one or more of the following symptoms: Hyperactivity, short attention span, impulsivity, low frustration tolerance, poor muscle coordination and decreased perceptual and conceptual abilities.

Many children had a combination of these conditions. Nineteen had mental retardation, cerebral palsy and epilepsy. Twelve had mental retardation, severe emotional problems and epilepsy, and 16 had a combination of minimal cerebral dysfunction, who had cerebral palsy were not being given care mental retardation, and epilepsy. The 29 children for their epilepsy under the Crippled Children Services program before they received it under this pilot program.

Fifteen per cent of the Contra Costa County families and 18 per cent of the San Bernardino County families were receiving public assistance (Table 6). The allowable welfare budget was calculated for each family, using the welfare budget standards of the Department of Social Welfare for the Aid to Needy Children program for each county. The net family income was compared with this amount, and if earnings did not exceed the budget allowance by more than 20 per cent, the family was considered to be living at a minimum level. Twelve per cent of the families in Contra Costa County and 33 per cent in San Bernardino County had incomes that were considered minimal. Approximately half of the families in San Bernardino County were considered to be at or below minimal level, while over one-fourth of the Contra Costa County families were in this category. About 10 per cent of the families were able to pay for treatment costs, according to the financial eligibility standards of the county Crippled Children Services program.

Social assessments of family functioning were completed for 228 families representing 236 children. Thirty per cent of the families were classified as having "no significant problems." These families had realistic concerns about medical problems, but were able to successfully cope with stress. They sought and used help in positive and constructive ways. Forty-four per cent of the families had "moderate problems." They had impairment in coping with stress and these families chronically functioned below their maximum abilities. Many of them appeared to have continual setbacks, such as periodic illnesses during which time they were unemployed and had to rely upon community agencies for financial support. Twenty-six per cent of the families had long-standing and serious social dysfunctioning and were classified as having "severe problems." These family units were likely to be structurally and emotionally disintegrated and the parents frequently manifested symptoms of severe emotional disturbances.

The study identified need for the following services: Counseling, psychiatric evaluation, family-centered casework services, psychiatric treatment, vocational planning, school guidance, and coordination of community agency services.

While these social assessment findings may not be applied as a generality to all families who have children with epilepsy, it can be presumed that similar families with similar problems will seek services through an expanded Crippled Children Services program.

About half of the invited private physicians attended and participated in the case conferences in Contra Costa County. Only about 10 per cent of those in San Bernardino County were able to attend, due to the great distances involved in many cases. One or more school representatives attended most of the conferences in both counties when the patient was of school age. Whenever the patient was a client of the welfare or probation departments, an agency worker was usually also present. Counselors from Vocational Rehabilitation Services were present in selected appropriate conferences.

Frequency of seizures at the time of referral varied from one per year to as many as 85 per day (Table 7).

TABLE 6.—*Financial Level of Families Referred to the Epilepsy Project*

	Contra Costa County (174 Families)	San Bernardino County (54 Families)
	Per Cent	
Receiving public assistance	15	18
Minimum level	12	33
Above minimum level	71	48
Unknown	2	2

TABLE 7.—*Frequency of Seizures at Time of Referral to Epilepsy Study Project (Information available for 136 patients)*

Seizures	Per Cent
10 or more per day	9
1—10 per day	12
1—6 per week	15
1—4 per month	19
4—11 per year	13
3 or fewer per year	26
Not classifiable	7

One of the criteria of the success of medical therapy of epilepsy is the degree of improvement measured by the reduction in seizure episodes. A majority of patients will become seizure-free, others will show some improvement in that the seizures occur less often and/or are briefer and less severe. A small proportion will not be improved by treatment and may even become worse during the period they are under observation.

Therapy for those who will continue to have seizures must include the education of the patient and his family about partially controlled or uncontrolled epilepsy.[12] Counseling in the form of assurance and guidance is a very essential and necessary part of therapy, for the patients must learn to adjust their lives and occupations to this handicap which can cause only brief periods of total disability. Such efforts will aid in the prevention of serious social and psychological handicapping and they are as important for persons with partially controlled or non-controlled epilepsy as is anticonvulsant drug therapy. Hence an important criterion for the success of a therapeutic program is the degree of social adjustment of the patient and his family to his problem. Because of the short period of observation and study of these patients, this factor could not be determined.

Children who were followed for at least three months after case conference were classified as to frequency of seizures at the time of referral and at the end of the follow-up period (Table 8).

Since these children were admitted to the Project over a period of two years, the length of the follow-up necessarily varied according to the date of referral. Almost 60 per cent of the children were seizure-free at the time they were last seen by their physi-

TABLE 8.—*Results of Treatment at Least Three Months After Diagnosis under Epilepsy Study Program (Information available for 136 patients)*

	Per Cent
Group I—Seizure-free	58
Group II—50 per cent or more reduction in seizure frequency	24
Group III—Less than 50 per cent reduction in seizure frequency or not improved	18

TABLE 9.—*Medical Care Status of Persons Receiving Care Through Epilepsy Project as of December 1, 1962*

	Contra Costa County	San Bernardino County
Total number of patients	180	56
Number of active cases	122	38
Receiving treatment from epilepsy specialist, pending stabilization	53	21
Receiving Crippled Children Service from referring physician	48	4
Waiting completion of diagnosis	21	13

TABLE 10.—*Medical Care Status of Persons No Longer Receiving Care Through Epilepsy Project as of December 1, 1962*

	Contra Costa County	San Bernardino County
Total number of patients	180	56
Inactive cases	58	18
Returned to private care	18	4
Not epilepsy	18	10
Moved out of county	16	3
Died	2	1
Became 21 years of age	2	....
Withdrew	2	....

TABLE 11.—*Diagnosis of Patients Found Not to Have Epilepsy, December 1, 1962*

	Contra Costa County	San Bernardino County
Number completed diagnosis	160	43
Number diagnosed epilepsy	136	33
Number diagnosed "not epilepsy"	24*	10
Severe emotional disturbance	8	2
Nutritional hypoglycemia	2	0
Breath-holding spells	1	4
Febrile seizures	5	0
Other	8	4

*This figure includes six children with breath-holding spells and febrile seizures who were kept under observation of the program.

cian, and one-third of these had had no seizures for at least one year.

Over 80 per cent of the children in the two counties showed significant improvement—that is, were either seizure-free or had a reduction of at least 50 per cent in the frequency of seizures after being under treatment for at least three months. These data compare favorably with treatment results recorded in studies in major epilepsy centers and programs elsewhere.[12,13]

About half of those children having weekly or daily seizures continued to have seizures although most of them showed 50 per cent or more improvement. This fact is an additional indication that the children being referred were representative of problem cases needing comprehensive diagnostic and treatment services.

In certain selected cases of focal epilepsy in which the focus is unilateral and has stabilized, and where medical therapy has not achieved control of seizures, patients may be candidates for neurosurgical removal of the epileptogenic focus.[11] One boy in this program did fit these criteria. Hemispherectomy was done and at the time of this report he had been seizure-free for 14 months.

The medical care status of patients receiving care through the Project on December 1, 1962, is listed in Table 9. About 40 per cent of the case-load were receiving treatment supervision from their private physician and these services were being paid for by the Epilepsy Study Program. The rest were receiving care from the epilepsy specialist under the program or were still undergoing diagnosis.

Table 10 shows that about 13 per cent of children with epilepsy were receiving treatment from their referring physicians on a private basis. These data point out that patients were being returned to their private physicians rather promptly after seizure control had been established or when consultation had been completed.

About 16 per cent of the patients were found not to have epilepsy and data on them are summarized in Table 11. Included in this category are children who had symptoms of seizures during a "breath-holding spell," children with a history of many seizures associated with fever, and two adolescents with episodes of nutritional hypoglycemia. Several children had severe emotional disturbances, and some had seizure-like symptoms on a psychogenic basis. One child had early symptoms of progressive muscular dystrophy; others had questionable seizure-like symptoms in association with a drug reaction, cerebral palsy, hyperactive behavior syndrome, mental retardation and mild emotional problems.

These patients who did not have epilepsy had significant medical histories and symptoms which are similar to the problems that fit into the category of epilepsy. An important function of a diagnostic program is to rule out the suspicion or possibility of a condition, as well as to confirm a correct diagnosis.[15] Therefore, the epilepsy program played an important role in establishing the correct diagnosis, thus leading to the appropriate treatment.

The costs of a complete diagnostic examination as described would amount to $225 or more per child at current fees. However, because some children had previous diagnostic tests, and others did not complete their diagnostic evaluations in any one fiscal year, the costs of providing these services approximated $125 per child per year for diagnosis; and treatment costs were about $51 per child per year.

SUMMARIZATION OF FINDINGS

The findings of the Epilepsy Study Project substantiated testimony presented to the State Legislature.[5] Some children with epilepsy and their families do have considerable medical and social problems and are in need of special assistance.

The Project accepted the referral of any child who was suspected of having or had symptoms suggestive of epilepsy in any of its forms. Two hundred and thirty-six children in 228 families were provided services by the Project.

In the two years of the Project, between 10 and 16 per cent of the estimated number of children with epilepsy were provided services in Contra Costa County, and between 2 and 5 per cent in San Bernardino County.

Over half of the children were referred by their physicians because the families could not afford a complete evaluation. The proportion of children referred by physicians was increasing by the time the project terminated.

One in six of the children diagnosed was found not to have epilepsy. Most of these children did have a serious medical and social problem for which they needed help.

Of the children who had epilepsy, almost half had a mixed type of epilepsy, and one in three had focal seizures indicative of previous serious brain injury.

Two-thirds of the children had additional handicapping conditions. These associated conditions were mental retardation, emotional disturbance, cerebral palsy, minimal cerebral dysfunction and other conditions of the brain and sense organs. The services of physician specialists were needed to establish an appropriate diagnosis and to medically control the seizures because of the severity and types of their epilepsy and the associated handicapping conditions.

Most of the children with epilepsy were having uncontrolled seizures at the time of referral, one in five having one or more seizures daily. Three out of five children became free of seizures within the limited observation periods. Another one-fifth had a reduction of 50 per cent or more in the number of their seizures, while the remainder either could not be improved or required further study and treatment to improve their status.

Two-thirds of the families had moderate or severe problems of family functioning. One in five of the families studied were in need of casework or psychiatric services to assist them to cope with problems which disturbed their social functioning. Unless these families receive such services, these children will very likely not be able to benefit from medical treatment provided.

The major service provided by the Project was to organize a multi-discipline team which could complete an evaluation of the child and his family, and bring together those persons interested in the child to plan and coordinate his care. In so doing the Project was able to determine gaps in community services as well as point out those services needed for the successful treatment of the children.

The Project was able to facilitate the care of the child because it had the funds necessary to pay for the complete evaluation of the child and his family, and to pay for the attendance and participation of the child's physician at the case conference. The case conference was one of the most important and essential features of the diagnostic services, and the interpretative conference with the parents and the child was equally valuable.

An important part of planning for services needed in a broadened program is having information available as to needs, possible problems, and costs. By providing services in limited pilot study areas and simultaneously carrying out program research, this data can be obtained and thus permit better planning and budgeting for services to the larger state population. The Epilepsy Study Project has demonstrated this technique which we believe is a reasonable and practical method of obtaining information necessary to program development, and at the same time has demonstrated the value of needed services.

RECOMMENDATIONS

In view of these findings, the State Department of Public Health recommends:

1. That epilepsy be included in the Crippled Children Services program as an eligible handicapping condition.

2. That Crippled Children Services programs include social work staff to provide social diagnostic services to children with suspected or known epilepsy. A priority should be placed on family-centered social assessment in the diagnostic procedures, collaboration in the development of treatment recommendations, interpretations of findings, and coordination of planning.

3. That social casework and psychiatric services be available to children with epilepsy and their families. The Child Welfare Services of the welfare departments and the Short-Doyle Community Health Services programs seem to be the available and appropriate community resources to support this recommendation.

4. That vocational planning, counseling and training services be made available to the child with epilepsy at the earliest possible age while he is still attending school.

2151 Berkeley Way, Berkeley, California 94704 (Howard).

REFERENCES

1. American Public Health Association, Committee on Child Health: Services for Children with Epilepsy, p. 49, New York, 1958.

2. Blackford, L.: San Mateo County family classification and case management schedule, structure, format, and implications for data analysis, unpublished paper presented at the Annual Institute for Public Health Social Workers in California, sponsored by California State Department of Public Health, Berkeley, California, Oct. 28, 1960.

3. California, Statutes of 1959, Chapter 2033.

4. California State Department of Public Health: Children with Epilepsy and the California Crippled Children Services Program, a Report to the State Legislature, pp. 20, 27, Berkeley, Jan. 1963.

5. California [State] Legislature Joint Interim Committee on the Education and Rehabilitation of Handicapped Children and Adults: Report, p. 160, Sacramento, Jan. 1959.

6. Chao, D.: Drug therapy in paroxysmal cerebral disorders, Pediat. Clin. N. Amer., 10:8, Feb. 1963.

7. Edwards, T. I., McGill, K. H., and Rowntree, L. G.: Causes of rejection and incidence of defects, Medical Statistics Bulletin No. 2, p. 496 [Washington, D.C.: National Headquarters, Selective Service System, Aug. 1, 1943].

8. Kurland, L. T.: The incidence and prevalence of convulsive disorders in a small urban community, Epilepsia, 1:143-161, Dec. 1959.

9. Lennox, W. G.: Epilepsy and Related Disorders, p. 200, Little, Brown & Co., Boston, 1960.

10. Livingston, S.: The Diagnosis and Treatment of Convulsive Disorders in Children, pp. 107, 248, Charles C. Thomas, Springfield, Ill., 1954.

11. Livingston, S.: op. cit., pp. 246-274.

12. Livingston, S.: Living with epileptic seizures, J. Pediat., 59:128-137, July 1961.

13. Stifler, J. R.: A review of the Maryland Epilepsy Program, Amer. J. Public Health, 47:587-593, May 1957.

14. U.S. Surgeon General's Office: The Medical Department of the United States Army in the World War, p. 158, U.S. Government Printing Office, Washington, Vol. X, Neuropsychiatry, 1923-29.

15. Wallace, H. M.: Health Services for Mothers and Children, pp. 375-377, W. B. Saunders, Philadelphia, 1962.

Telephonic Electrocardiography

IRWIN HOFFMAN, ***M.D.,*** **and RICHARD S. COSBY,** ***M.D.,*** **Los Angeles**

• Telephonic electrocardiography is a new and useful adjunct to the diagnosis and treatment of cardiovascular disease. It has already demonstrated its great value both in clinical practice and in hospital teaching. It has, however, many other possible roles, for example, in more efficient monitoring after operations on the heart, or in the office monitoring of seriously ill patients with infarction or Adams-Stokes attacks. The availability of increased data in cardiac cases leads automatically to a better understanding of cardiac disease.

AMONG THE MORE recent valuable contributions of modern electrical engineering to the diagnosis and therapy of cardiovascular disease is telephonic electrocardiography. Although utilized clinically for the past several years, it has only recently been available as a completely operative system, and has been utilized with increasing frequency during the past six months. The purpose of this presentation is to outline experience gained with such a system, to consider its applicability and to mention some of the problems encountered.

Present instruments* impress the electrocardiographic trace upon a high frequency audio-wave, transmit the beam over the ordinary telephone line, "unscramble" the tracing at the receiving end and send the resultant electromotive force through the receiving electrocardiograph. Thus, the "sender" consists of an electrocardiograph (Figure 1) and "scrambler" (transmitter), and the receiving unit is an "unscrambler" and an electrocardiograph. There are no fixed connections to telephone lines, the connections at both ends being accomplished by placing the sending (speaking) phone over a phonic connection on the "scrambler," and at the receiving end, the "hearing" end is placed over the "unscrambler."

This system, then, permits the optimum in electrocardiographic rapport between two distant physicians, namely, the simultaneous recording of identical electrocardiograms at the two ends of the telephone line.

Some experience is necessary between physicians, or, as is more practical, between technicians, in order to transmit with efficiency; but after a dozen or so trials together, efficient technicians will approximate the speed of taking a routine office tracing. Communication between the two depends on prearranged simultaneous lifting of the two telephone receivers, and this is usual in practice after standardization, after classical leads, after unipolar leads, and at the conclusion of the trace. This ensures perfection during the trace, with little repetition, and the procedure may be further shortened when confidence between technicians is established.

The sender, then, has prime responsibility for artefact, for base-line wandering, for standardization,

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*Birtcher Corporation, Los Angeles.

From the Cardiology Division, Department of Medicine, University of Southern California School of Medicine, and from the Los Angeles County General Hospital, Los Angeles.

Submitted December 2, 1963.

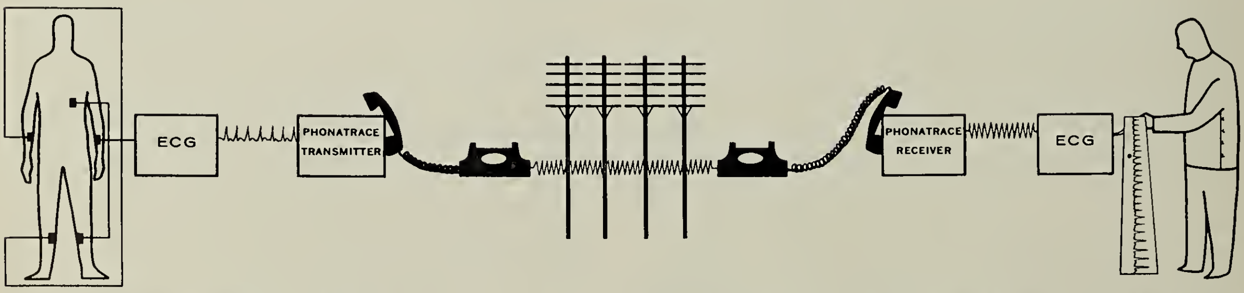


Figure 1.—At far left, the patient is connected to electrocardiograph at the transmitting end. Then with the patient's electrocardiogram coupled into Phonotrace transmitter, the ECG signals are "scrambled" (frequency modulated) for telephonic transmission to the receiving end. With the mouthpiece of the telephone placed on the Phonotrace transmitter, the "scrambled" signal is carried by telephone line to the receiving end, where the earpiece of the receiving telephone is placed on the Phonotrace receiver. The Phonotrace receiver, connected to the receiving electrocardiograph, "unscrambles" signals, permitting the patient's electrocardiogram to be recorded and interpreted instantly and simultaneously while it is being taken miles away.

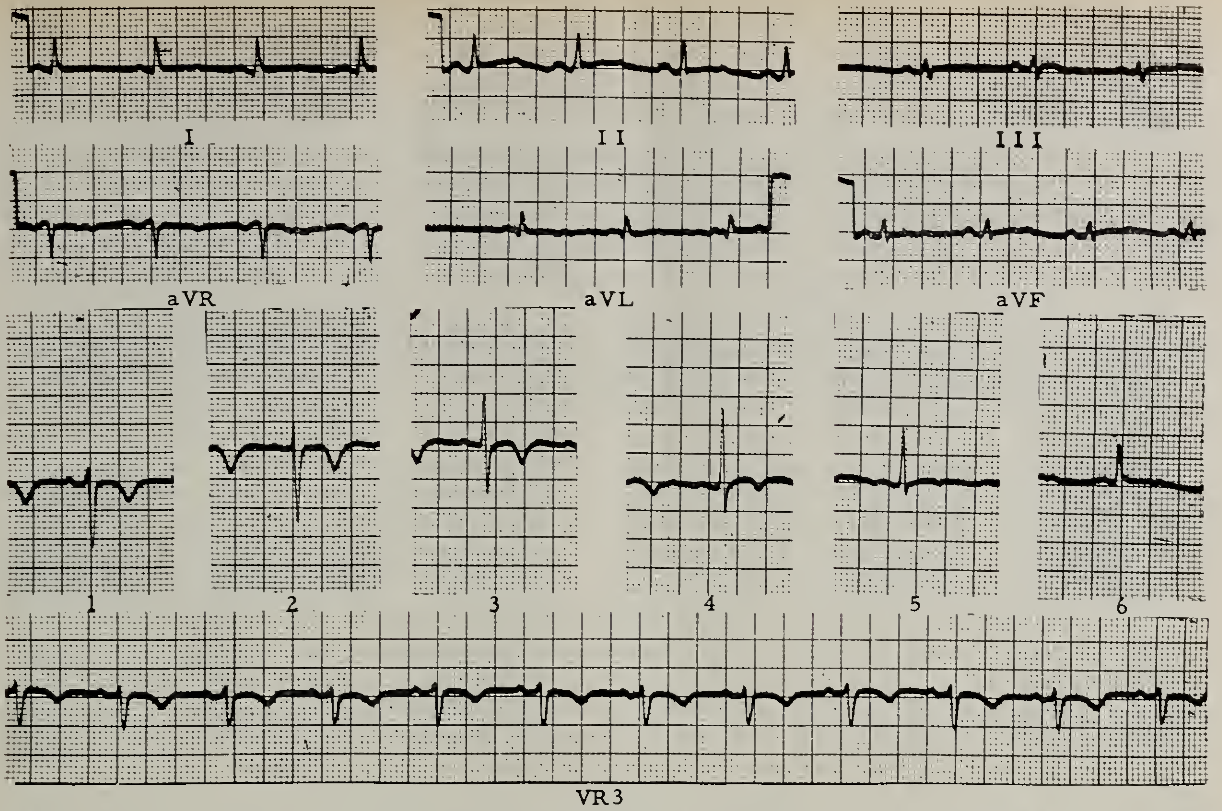


Figure 2.—Electrocardiogram transmitted telephonically from a 62-year-old woman in congestive heart failure who complained of a "crushing" chest pain. Inverted T waves over the right precordium suggested the diagnosis of a pulmonary embolism. Following the conclusion of the trace, the referring physician, in conversation with the consultant, was immediately apprised of the probable diagnosis and was able to institute effective anticoagulant therapy without delay.

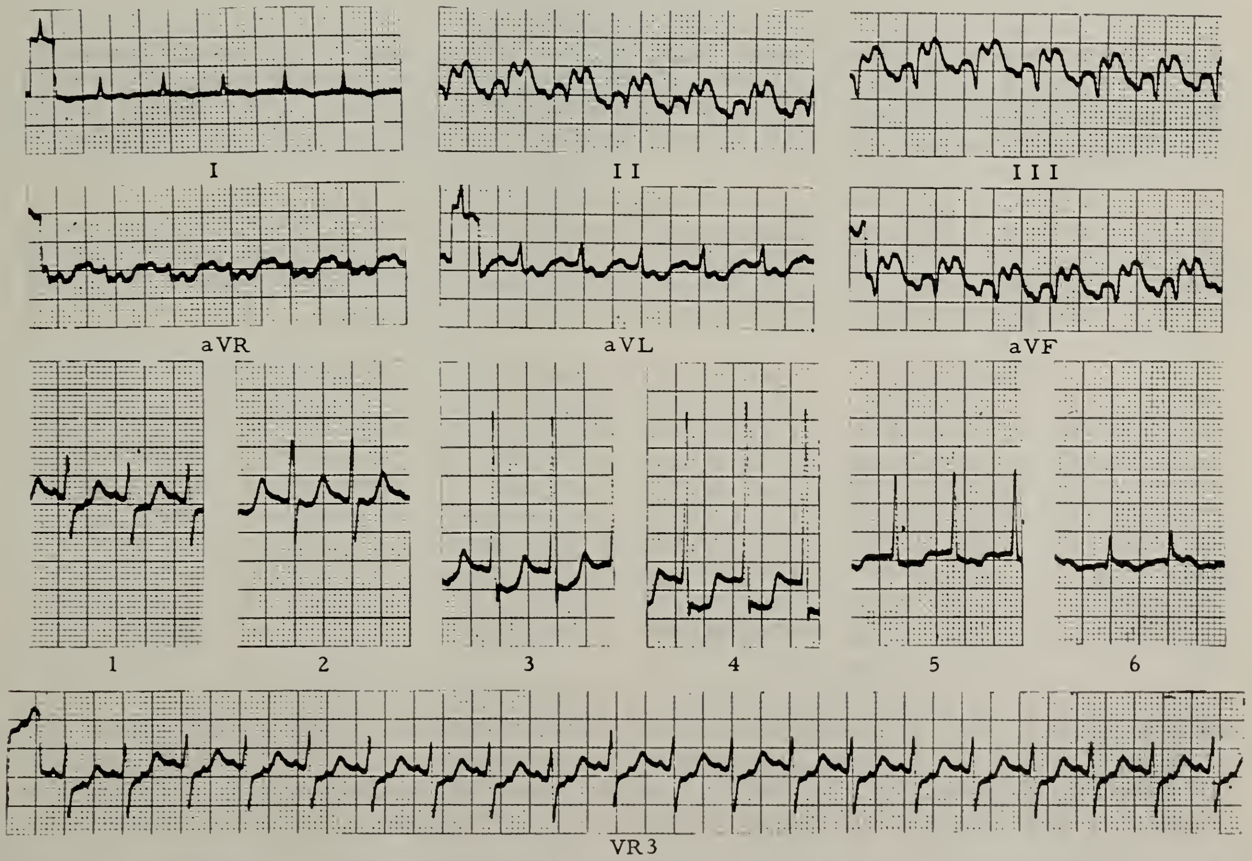


Figure 3.—Arrhythmia as transmitted by telephone when the referring physician at a local hospital, some 200 miles from Los Angeles, was unable to decide the exact nature of the rhythm disturbance and the type of therapy indicated. The patient had been receiving a maintenance dose of digitalis, and cardiac failure developed at the inception of the arrhythmia. A diagnosis of acute posterolateral myocardial infarction with atrial flutter at a rate of 280 per minute and a 2:1 AV response was made. The referring physician was advised to administer larger doses of digitalis. The distinction between this arrhythmia and paroxysmal atrial tachycardia with block, frequently results in confusion. The importance of the differentiation rests upon the fact that digitalis is indicated in atrial flutter but must be discontinued immediately in paroxysmal atrial tachycardia with block since it may be a reflection of digitalis toxicity. Immediate analysis of the "phonotrace" permitted the rapid institution of a proper therapeutic regimen and prevented needless delay and confusion in differential diagnosis.

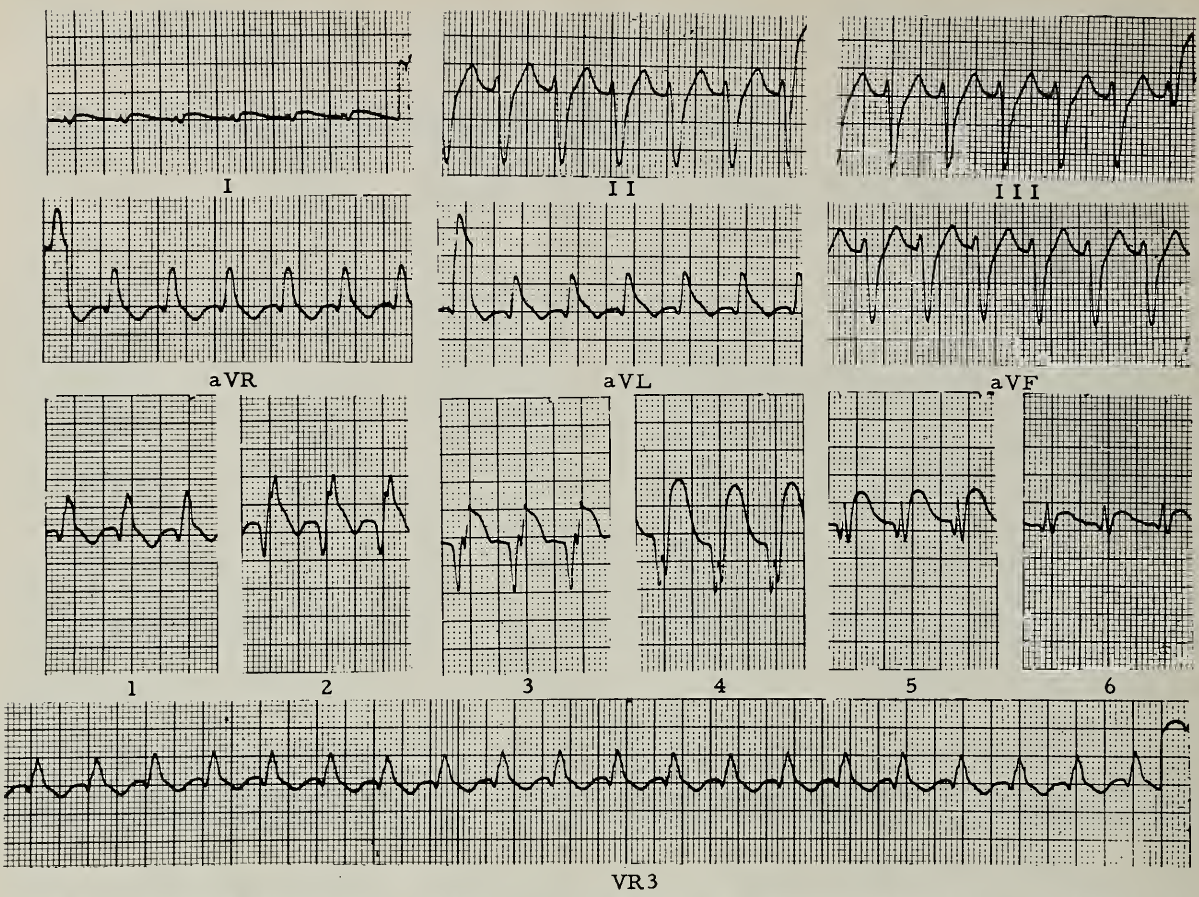


Figure 4.—The tracing was telephoned because the physician felt that ventricular tachycardia was responsible for the bizarre QRS changes and requested confirmation. When the tracing was completed he was informed immediately that the rhythm disturbance was an atrial flutter with a 2:1 AV block. In addition, an acute anterolateral infarction with complete right bundle-branch block accounted for the QRS changes. The infarct was not suspected clinically. Digitalis, rather than procainamide, was ordered and the patient's subsequent recovery demonstrates the dramatic results that may be afforded by this procedure.

etc. The receiver simply checks standardization, and turns the ON button when the writing arm begins to move. There is a slight waste of paper between leads.

APPLICATIONS

Telephonic electrocardiography is of value when an immediate reading is important, perhaps vital, to the patient's diagnosis and treatment. It should be thoroughly stressed that no artefact whatever is induced by the telephonic communication of the tracing, and an exact duplicate and simultaneous tracing is produced at sending and receiving ends. Thus far, over a thousand tracings have been received by the authors, without artefact. Distance appears to present no problem, produces no artefact and tracings are frequently sent across the continent, or by short wave radio telephone over water. The only untoward events have been (1) interruption at telephone switchboards when an operator, not cognizant of the type of information being transmitted, disconnects a "dead" line, and (2) occasional automatic loss of circuit through improper noise level switches. Both of these defects are obvious and are easily circumvented.

The outstanding advantages of this system relate to the exigent nature of cardiac problems. They primarily relate, obviously, to: (1) Acute myocardial infarction, and the differential diagnosis of severe chest pain; (2) tachycardia, particularly when the patient is obviously ill; (3) problems in syncope and Adams-Stokes attacks, and (4) following open heart operations. Quite clearly, the field of usefulness of this remarkable tool extends, depending on the experience of the individual physician, to any problem involving the electrocardiogram where the saving of time is important to the patient's health.

A few examples of the utility of this procedure and the extraordinary advantages offered both patient and referring physician have been selected from telephonic tracings received by the authors (see Figures 2, 3 and 4).

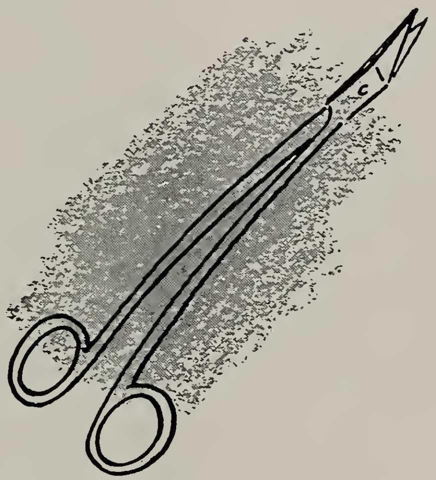
OFFICE USE

In consultant practice, telephonic electrocardiography has been most valuable in the analysis of cardiac pain. When a cardiologist or internist is not available, the analysis of pain involving an immediate and expert interpretation of electrocardiograms may save an amazing amount of time. Premonitory pain is documented, minimal ischemia identified, an unusual arrhythmia discovered, which may save days of delay and, indeed, lives. The method has an extremely important advantage over the routine reading of tracings—in addition to overcoming the 36 to 48-hour delay inherent in tracing interpretation by mail. This is the direct telephone consultation, which frequently may follow upon the "electrocardiographic interpretation." The system is, of course, ideal for remote areas.

HOSPITAL VALUE

In a large municipal or metropolitan hospital, the system has proven of great value in the analysis of perplexing cases of arrhythmia, particularly during evening hours, and especially for the resident staff. Interpretations may be discussed, along with possible therapy, with the senior staff, and maneuvers, such as application of carotid sinus pressure, may be advised and carried out. Indeed, the proper medication may be given intravenously—for example, procainamide — under direct electrocardiographic observation by an expert, and the details of continuing medication decided upon. The method is particularly applicable when ventricular tachycardia is an emergency or when heart block is accompanied by Adams-Stokes attacks.

111 Congress Street, Pasadena, California 91105 (Cosby).



Commercially Oriented Clinical Laboratories

W. MAX CHAPMAN, M.D., M.P.H., Berkeley

• Out-of-state flat-rate mail order contract laboratories operating from states which have little or no legal control over them can do business in California without obedience to regulations that govern laboratories located within the state. The flat-rate contract principle under which some out-of-state laboratories operate is illegal in California. The use of such laboratories increases physician liability.

Legislation for the control of these laboratories is difficult to construct, and laws which might result would be awkward to administer. The best remedy is for California physicians not to use an out-of-state laboratory offering contracts or conditions that it could not legally offer if it were located in California.

SPECULATION ON THE DEGREE of quality maintained by clinical laboratories is continuously in evidence in various professional and public discussions.[4,6] In most states there is a real reason for such speculation, since the only potent force exerted in maintaining quality is provided by organized professional groups—for example, the American Society of Clinical Pathologists. Enticing opportunities are thus available to imaginatively unscrupulous operators, since there are no legal restrictions in most states to curb their activities. Evidence that some such promoters have reaped an unearned harvest is abundantly available.[1,5,6,7,8] The extent of evil inflicted on the patients involved is a matter for conjecture.

California has enacted very comprehensive laws and regulations to control clinical laboratories.[2] These have been in effect for over 25 years. However, only laboratories that are situated within the state come within the jurisdiction of these controls. It is not justifiable to assume that all commercially oriented laboratories doing business by mail from other states maintain the same standards as those required here. Furthermore, there may be commercially oriented laboratories in California also whose operators are not above reproach. A significant number of laboratorians in California have been subjected to disciplinary action. Others have escaped such action through promptly making changes in their ways. Still others may now be violating regulations but with the hope they will not be discovered.

This brings up a responsibility carried by all physicians and persons in related professions. Whenever irregularities are observed in laboratory operations, they should be called to the attention of proper authority. Such dangerous activities must be eradicated whether in the state or outside. In California a mechanism is available—and is used—for making corrections. In many other states no comparable machinery exists.

A mail order laboratory as such is not necessarily bad. The use of the mails for transporting laboratory specimens is a valuable function. There are many situations where such services are indispensable. The use of postal services by laboratories becomes questionable when laboratories that are located in jurisdictions having minimal regulation solicit business from areas that have greater regulation. Question in such circumstances is warranted simply because, all things being equal, it is obvious that commercially oriented laboratories would locate near the most business, if it were possible or financially rewarding for them to do so.

Patients who receive medical attention in California have a right to expect a quality of care which is in compliance with California laws. Laboratories licensed by this state may be assumed to provide services of such quality. Cut-rate, or flat-rate contract type laboratories violate California law, but when located in other states they are not subject to California jurisdiction, and controls of their practices cannot be applied by this state.

Therefore physicians who use such out-of-state laboratories may not be providing patients with the quality of care they have a legal right to expect. If, in fact, such laboratories do not fulfill California requirements, physicians who patronize them may lose out in subsequent malpractice suits based on situations in which the findings of such laboratories have been used by them.[11,13]

These statements are timely because some services from out-of-state laboratories have been proven unreliable. For example, one laboratory located in another state did not examine slides sent in by many physicians from six other states. It is known that reports on those specimens were sent back to the physicians, yet the slides were located in an unexamined condition by the California Department of

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From the Bureau of Laboratory Field Services, State of California Department of Public Health, Berkeley.

Submitted November 13, 1963.

NOTE: A pertinent statement on clinical laboratories, prepared by the Commission on Community Health Services and approved by the Council of the California Medical Association, February 9, 1964, is printed on Page 303.

Public Health in a salvage dealer's warehouse.[1,14] In another instance various kinds of specimens with known abnormal content were reported "negative" by an out-of-state contract laboratory.[5,14]

It should be stated again that cut-rate or flat-rate features are contrary to California law.[3] In the past, laboratories featuring such services on a contract basis have tried to set up operations in California. Such attempts have failed because laws in this state do not permit these practices.[3]

It has been noted that detail men are an important feature in the operation of the cut-rate or contract laboratories. Closer observation leads to the conclusion that detail men are an indispensable adjunct to commercially oriented laboratories located in other states.

Contracts are obtained with physicians frequently through personal solicitation by detail men who know little about the services they are selling. From one physician's office a letter was received which told of a visit with a laboratory promoter who stated that the tests available through his firm, for which the physician would pay a flat rate, could bring back a return almost seven times greater than the cost to him.[14]

The principle of providing protection for patients from cut-rate practices among the professions has been well established by the courts. An opinion of the California Attorney General paraphrases the language of the United States Supreme Court in this regard as follows:

"The use in the professional fields of such common commercial media as discounts, sales prices and other indications to the public that the price charged is less than what they usually would pay is bad for two reasons: As a general rule such media are used in the practice of the charlatan and the quack to entice the public to his door, and the community is concerned with the maintenance of professional standards which will insure not only competency in individual practitioners, but protection against those who would prey upon a public peculiarly susceptible to imposition through alluring promises. Secondly, such practices tend to demoralize the professions by forcing their members into an unseemly rivalry which would enlarge the opportunities of the least scrupulous."[9]

The representation to a physician of a discount through a flat-rate contract by a California clinical laboratory would clearly be illegal.[3] It would appear, therefore, that a physician licensed in California should be cautious in accepting a flat-rate proposal or a discount in any circumstances.

Legislators do not desire to enact laws directed toward controlling out-of-state laboratories, since they hope that physicians who do use out-of-state laboratories will choose only those which would qualify in California. In a session conducted by the Assembly Interim Subcommittee on Hospitals and Medical Facilities, this belief was illustrated in the following paraphrase of a comment made by one of the legislators: "It appears that the best way to handle this issue, is for the California Medical Association to aggressively pursue this subject within its own organization as a matter of self-policing, in keeping with the high ethics of the profession."[1] This, of course, is the most desirable solution to this problem. As expressed by one physician, "It is stupid to bring on legislation by our own irresponsibility. Without consumers, there would be no product."[15]

The Interim Subcommittee on Hospitals and Medical Facilities did recommend legislation which would in effect require out-of-state laboratories which do work for California physicians to comply with California standards.[1] Such legislation is difficult to construct since the only offenders would be the physicians who might continue to use out-of-state substandard laboratories. The laboratories themselves are out of the reach of California laws, and so may continue to function at whatever level they choose.

In accordance with the interim committee recommendation, legislation was prepared for the 1963 legislative session through the office of the legislative counsel, and was introduced by the chairman of the Assembly Public Health Committee.[12] This legislation faced almost insurmountable opposition for the reasons already stated, and it also was opposed by out-of-state interests. Therefore, the issue was referred for further interim study. However, as already stated, there will be no need for such legislation if physicians do not use those laboratories which operate contrary to California law.

One of the principal advantages derived from using qualified nearby in-state laboratories, in addition to quick service, is the opportunity for personal discussion of tests and of the specimens required for these tests. Furthermore, if the laboratory director is a physician, he may interpret the test in its relation to the diagnosis of various diseases. Also there is opportunity for continuous personal observation of the laboratory and of the persons who work there.

In contrast to this, the commercial mail order laboratory is an impersonal unknown. Added to this is the fact that some tests cannot be handled through the mails, and the accuracy of others is impaired through such handling.[4,10]

When all the potential inaccuracies and hazards associated with commercially oriented out-of-state mail order laboratories have been considered, a question arises as to why such services have any appreciable appeal. This appeal exists in two forms: One is that some physicians hope to save money for their patients through the flat-rate plan; and the other is that there is a possibility that such services are paid for by the physician at the low flat rate, but are charged to the patients or the welfare departments at an unjustifiably higher rate.[10] The latter is of course unethical, and may be illegal. To avoid this evil it has been recommended by some that all services, including laboratory services, be billed directly to the recipient by the person providing the service. In this way any question of abuses by intermediaries would be eliminated. Such a practice would also eliminate the undesirable, flat-rate contracts, and would curtail shortcut laboratories both in and out of the state.

From an earlier issue of CALIFORNIA MEDICINE the following statements bear repetition:[5] "There is ample room, however, for questioning the activities and the services of nameless laboratories which solicit business by mail, especially if they offer cut-rate services or flat charges which are out of consonance with accepted practices in various areas of California. There is no place in this state for rebates or their counterparts under any guise."[5]

The best way to control such laboratories is not to use them.

Laboratory Field Services, California State Department of Public Health, 2151 Berkeley Way, Berkeley, California 94704.

REFERENCES

1. Assembly Interim Committee Reports, 1961-1963, Report of the Assembly Interim Committee on Public Health—Subcommittee on Hospitals and Medical Facilities, Vol. 9, No. 25, pp.16-21.
2. California Business and Professions Code, Division 2, Chapter 3, Sections 1200-1322 inclusive.
3. California Business and Professions Code, Division 2, Chapter 2, Article 6, Sections 650-654.
4. Caraway, W. T.: Clinical and diagnostic specificity of laboratory tests, Amer. J. Clin. Path., 37:445-462, May 1962.
5. Editorial, Substandard clinical laboratories, Calif. Med., 94:321, May 1961.
6. Godbout, O.: Unethical medical laboratories face curbs in city crackdown, New York Times, p. 60, Oct. 10, 1960.
7. Goldman, R. P., and Ross, S.: A scandal that threatens your health, Parade, pp. 4-5, June 11, 1961.
8. Larceny in the laboratories, Time, pp. 55-56, Oct. 24, 1960.
9. Opinion, California Attorney General, No. 56/124, May 14, 1956.
10. Practice management, how to pick a private laboratory, Phys. Man., Vol. 3, No. 5, pp. 60-106, May 1963.
11. Riverside County Medical Association, Communication to Assembly Public Health Committee, Nov. 30, 1962, Assembly Interim Committee Reports, Vol. 9, No. 25, p. 20, 1961-1963.
12. Rumford, W. B., Mulford, D., Holmes, J. L., and Dills, C. A.: Assembly Bill No. 140, March 12, 1963.
13. San Diego County Medical Society, Memorandum to members and applicants, May 16, 1963.
14. State of California Department of Public Health, Laboratory Field Services Records, 1961-1962.
15. Hippen, R. L.: Up for grabs, Bull., San Diego County Medical Society, 49, March 1962.

Cancer of the Upper Digestive and Respiratory Tracts

LEWIS W. GUISS, *M.D.*, Los Angeles

WHILE CANCER of the areas to be considered in this chapter are not of overwhelming importance numerically, comprising probably not much more than 5 per cent of all malignant neoplasms, they deserve special consideration for several reasons. These lesions occur in a part of the body where multiple structures, important both functionally and cosmetically, are closely superimposed in a relatively small space. For successful treatment and preservation of function without obvious mutilation, special techniques and skills are required because of the complexity of the anatomic structures involved. Realistic cure rates for treatment of malignant neoplasms here probably do not exceed 25 to 30 per cent. This salvage rate is particularly disappointing, since these structures are easily accessible for early detection, diagnosis and treatment. Nowhere else in the body is "early diagnosis and treatment" so closely equated with a successful outcome. In a recent review of the author's material, it was found that 90 per cent of all intraoral lesions were cured if treatment was undertaken before they were 2 cm in diameter but if they exceeded that size before therapy, the cure rate dropped to 10 per cent. Successful treatment, no matter how skillfully applied in this region, can be achieved uniformly only if instituted while the lesion is still of reasonable size and duration.

CANCER OF THE ORAL CAVITY

Etiological Factors

Leukoplakia is the most common precancerous lesion seen in the oral cavity. Early leukoplakia, a whitish non-palpable patch on the mucosa, is very common. While indicative of chronic irritation of some form, it is not a cause for alarm, although steps should be undertaken to discover the cause and institute corrective measures. In this stage of development this condition is frequently reversible with proper treatment and biopsy probably is not indicated. However, when leukoplakia becomes palpable as a roughened, thickened or raised process, it is a cause for concern, and although still frequently amenable to conservative and corrective management, certainly biopsy is justified before treatment is started.

The etiologic agents most commonly implicated in the development of leukoplakia and carcinoma of the oral cavity are several. Any source of chronic irritation continued over a variable period may result in the development of either of these lesions. Chronic abrasion of the mucosa by badly fitting dentures or carious teeth may frequently be involved. Syphilis does not hold the importance as an etiologic agent that once it did. It now is regarded as a factor in the development of carcinoma of the tongue only as a late feature of syphilitic glossitis, a fairly rare condition nowadays. The role of tobacco in various forms has probably been exaggerated in the past although there can be no question that it is a very definite factor when used in the form of snuff or chewing tobacco. The risk of cancer of the oral cavity is stated to be three times as great for heavy smokers as for non-smokers. Probably of paramount importance in the development of precancerous leukoplakia and intraoral carcinoma are nutritional deficiencies, whether strictly dietary in nature or, as is almost invariably the case, associated with chronic alcoholism. Heavy consumption of alcohol certainly increases the risk of cancer of the oral cavity, although probably indirectly through the induction of associated nutritional and hepatic insufficiencies rather than through local irritation to the buccal mucosa. It may safely be said that carcinoma of the intraoral cavity is rare in non-smokers who do not drink and have no dental abnormalities.

Indicative of a general rather than a localized etiological background for intraoral carcinoma is the fact that multicentric and successive carcinomas are common. The successful treatment of a single intraoral tumor results in the necessity of reclassifying the patient as a highly suspect individual with reference to the development of subsequent lesions, and frequent follow-up examination is indicated.

Associate Clinical Professor of Surgery, U.S.C. School of Medicine, Los Angeles.

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Pathology

Ninety-eight per cent of all malignant neoplasms in the oral cavity are epidermoid carcinomas of varying grades. Usually of a low-grade nature when involving the mucosal surface of the lip, the degree of malignancy tends to increase in the region of the mid-oral cavity and tongue and to become of uniformly high-grade potential in the area of the tonsil and the pharynx. While any benign or malignant neoplasm may rarely be encountered, the only other entity of clinical importance is that of benign mixed tumors of minor salivary gland origin. These as well as their malignant variants and adenocarcinomas may arise anywhere there are minor salivary glands lining the buccal or respiratory passages. The lymphatic drainage of the intraoral cavity is in the general direction of the jugulodigastric node (adjacent to the internal jugular vein where the digastric muscle crosses) although frequently the first clinical sign of metastatic disease may be in the submaxillary triangle or mid-neck.

Diagnosis

Diagnosis of a malignant neoplasm in the intraoral area can be done simply: It entails examination of a biopsy specimen excised under local anesthesia at the time the lesion is first noted. The specimen can be taken either by dermatologic punch or with any of the various types of cutting forceps. Hemostasis can be accomplished by electrocoagulation or suture. Thus treatment can be instituted immediately and the tedious, fruitless and ofttimes fatal policy of waiting until the diagnosis becomes obvious can be avoided. As previously stated, successful management is almost totally dependent upon early diagnosis, which is almost always possible. The increasingly popular practice of substituting the Papanicolaou smear technique for tissue biopsy of obvious lesions should be discouraged. This method may very well prove to be a valuable tool for detecting occult intraoral carcinoma, but for an obvious lesion, tissue biopsy is required. A false negative smear of an intraoral carcinoma can be disastrous and a positive smear from an intraoral lesion only indicates the necessity for histologic examination. Evaluating visible lesions by examination of exfoliated cells can only be regarded as expensive, inconclusive and responsible for delay in beginning therapy.

CONSIDERATION OF SPECIFIC INTRAORAL SITES

Cancer of the Lower Lip

Consideration of this site of cancer must be restricted to lesions arising in the exposed mucosal surface of the lip. Basal cell carcinomas and epidermoid carcinomas arising in the skin must be excluded and considered as skin lesions. Carcinoma of the lower lip is the most common form of cancer of the oral cavity, making up more than 25 per cent of the total incidence. About 90 per cent occurs in males, partly at least because women give better care to the intraoral cavity, protect the exposed buccal mucosa with lipstick and less often engage in outdoor occupations and activity. Unquestionably most important as an etiologic factor for carcinoma of the lip is actinic irradiation, particularly in California where the amount to which one is exposed outdoors is six times that of the average in the United States. Negroes appear to be almost immune to lip cancer, probably because of protective pigmentation, but they have the usual incidence of intraoral carcinoma. Pipe-smoking has been largely discounted as a significant etiologic factor. That actinic irradiation is the most important cause accounts for the preponderance of the lesion on the exposed lower lip and relative infrequency on the protected upper lip. Leukoplakia, a manifestation of actinic damage in this area, may certainly be regarded as a precancerous lesion although it need not necessarily proceed to the development of a malignant phase.

Clinically, the lesions are usually exophytic in nature and ulcerate early. The earlier lesions may be misinterpreted as patches of leukoplakia and their true nature—that is, early invasive carcinoma—not be revealed until biopsy is done. Uniformly epidermoid histologically, these tend to be Grade I or II in differentiation and metastasis is uncommon unless the primary lesion is of long duration or more than 2 cm in diameter.

Small lesions may be expeditiously treated by either irradiation or full thickness V excision, although the functional and cosmetic results achieved by skillful irradiation are usually preferable to those obtained by surgical resection. Adequate margin can be achieved by radiation techniques without subsequent deformity where resection of adequate margins surgically would leave considerable distortion. Larger lesions may usually be successfully treated by radiologic techniques but if managed surgically will leave considerable functional deficit and an unsatisfactory cosmetic result.

Excisional management is usually preferable for young patients and those whose complexions are such that severe late radiation sequelae might be anticipated. Mandatory indications for surgical management are "radiation failure" and lesions so neglected that there is involvement of the adjacent mandible. In only about 10 per cent of all cases of lip cancer will metastasis develop, and then usually in the area of the submental and submaxillary nodal groups. The practice of doing so-called "prophylactic" neck dissections routinely in cases of lip cancer is now regarded as unjustifiable. While one might consider such a procedure in the case of neglected lesions of long duration that are more than 2 cm in diameter, it is general practice to wait until there is clinical evidence of metastasis before doing a node dissection. Cancer of the lower lip is probably the only situation in which modified dissection is justifiable and standard treatment. Since metastasis is usually restricted to the submental and submaxillary groups of nodes, conventional treatment consists usually of bilateral suprahyoid neck dissection. Only when there is obvious extension below the hyoid bone should the standard radical neck procedure be considered.

The five-year cure rate for small lesions should be in the neighborhood of 95 per cent. With very early lesions, series have been reported with five-year cure rates as high as 98 per cent. Even in advanced cases with large lesions requiring neck dissection for metastatic disease, a five-year cure rate in excess of 25 per cent is reported for many series, indicating the efficacy of limited neck dissection for this disease. Because of the simplicity and effectiveness of the bilateral suprahyoid neck dissection for metastatic disease in this area, there has been little indication for irradiation.

Cancer of the Tongue

Excluding consideration of the lower lip, almost half of the remaining intraoral cancers are carcinomas of the tongue. They occur predominantly in middle-aged men, and chronic irritation, oral sepsis and the heavy use of alcohol and tobacco have been indicted as etiologic factors. Syphilis, at one time implicated in 30 per cent of lingual cancers, still remains an etiologic factor but probably in less than 5 per cent of cases. In some studies three out of four patients have been found to be heavy drinkers with 50 per cent having definite evidence of hepatic cirrhosis. Seventy per cent of the lesions occur along the lateral borders of the tongue, indicating the probable role of chronic irritation, dental and otherwise, in the pathogenesis. Grossly they vary from the verrucous extrovertive type to superficially eroded, predominantly infiltrating lesions. Ulceration is the rule and, in the infiltrating type, extension may be much greater than is visually evident. Microscopically the lesions vary from Grade I, predominantly keratinizing, to Grade III and IV in the infiltrating types. Nodal metastasis is common. Probably at least 75 per cent of patients have clinical evidence of metastatic disease in the homolateral neck sometime in the course of the disease. Contralateral metastasis, while not common, occurs in about 15 per cent.

Diagnosis

Surprisingly, considering the mobility and sensitivity of the tongue, these neoplasms may attain considerable size when first seen and may be relatively painless. Almost unbelievably, in many series delays of six months and more between the onset of symptoms and the diagnosis and treatment are reported. Often by this time the floor of the mouth and adjacent structures are involved. The examination of the tongue should never be limited to visual inspection but should always include thorough digital palpation of the entire structure as well as evaluation of the node-bearing areas for clinical evidence of metastatic disease. Tissue for biopsy should be taken from the margin of any suspect lesion with scalpel, punch or forceps. The specimen should be big enough to be representative of the lesion. Local anesthesia should be effected and after excision the site may be sutured or cauterized to control bleeding.

Treatment

In no other organ site for cancer may so great a variety of treatment techniques be applied successfully. The therapeutic program for any particular case should be adapted to the location and extent of the lesion and the treatment skills available. Small lesions may be excised with adequate margins. Larger and infiltrating processes where the extent of the involvement is not clearly evident may be treated better by any of several irradiation techniques. Successful programs may include peroral roentgen therapy using limiting cones, cross-firing external ports utilizing high or supervoltage therapy, interstitial implantation of gold radon seeds or low intensity radium needles, and various combinations of these techniques.

Surgical resection is certainly more expeditious and less uncomfortable to the patient. Radiation programs may offer a superior functional result but are almost invariably more time-consuming and they depend on the availability of the special equipment and skills required. When there is extension of the disease impinging upon or involving bone, surgical resection is almost mandatory if cure is to be achieved. Supervoltage roentgen therapy and cobalt teletherapy may be useful as preoperative measures, or they may be used for definitive management or for palliation in cases of extensive inoperable lesions. The management of nodal disease and end results will be discussed at the end of this section.

Cancer of Buccal Mucosa

The incidence of carcinoma of the buccal mucosa is about one-third that of the tongue except in geographic areas where tobacco chewing, the use of snuff and betel chewing are prevalent. In such areas the incidence may equal that of carcinoma of the tongue. Occurring almost entirely in males, over half the lesions are located along the occlusal line of the teeth, indicating the role of chronic dental irritation. Usually beginning as impalpable leukoplakia, the lesion progresses through a palpable stage of this condition to a verrucous intermediate grade epidermoid carcinoma. The impalpable stage of leukoplakia may justifiably be treated by oral or parenteral administration of large doses of vitamin B complex and other therapeutic measures designed to remove chronic irritation. If the plaques are palpable, however, biopsy is mandatory, for the transition between heavy leukoplakia and carcinoma is impossible to detect clinically. Often the leukoplakic process is so extensive that multiple biopsy of both sides is necessary for adequate evaluation.

The treatment of buccal carcinoma should be varied to fit the immediate problem. Very small superficial areas may be destroyed simply by cauterization. For larger lesions excision and suturing may be required, with cognizance of the existence of Stensen's duct. Heavy cauterization of large areas may be equally efficacious in controlling the process but the resultant scarring and functional impairment make this treatment undesirable. Extensive involvement may be treated by excision and skin graft but better functional results in such situations are usually achieved by peroral, external or interstitial irradiation techniques. With extension of the disease to the mandible, surgical resection of this structure in continuity with the primary lesion and a radical neck dissection is indicated.

Cancer of the Floor of Mouth

The anatomic area known as the "floor of the mouth" is a semilunar area bounded by the lower dental arch on three sides and by the inferior surface of the tongue posteriorly. Continuous with the alveolar ridge and the undersurface of the tongue, it is often secondarily involved by direct extension of lesions arising in these structures. Primary carcinomas of the floor of the mouth probably make up less than 10 per cent of all intraoral lesions and they occur almost exclusively in men. As the area is circumscribed and contains the puncta of the submaxillary and sublingual salivary glands, treatment of lesions confined there is predominately and preferably by radiation, usually administered through a peroral tube, although other radiation techniques may be employed, such as interstitial therapy or external ports. If there is extension of the process to the adjacent mandible or if radiation has been used and the lesion not controlled, surgical operation is mandatory. Usually what is required is mandibulectomy with cervical node dissection in continuity, although once in a great while a marginal resection of the adjacent mandible together with the primary lesion may have to be considered.

Cancer of the Lower Alveolar Ridge

The lower alveolar ridge is rarely the original focus of intraoral carcinoma, although it is frequently involved in lesions of the adjacent buccal mucosa, the floor of the mouth or the tongue. The diagnosis of this usually low-grade epidermoid carcinoma may not be difficult, but sometimes it is not made until extraction of a tooth exposes a peridental growth that leads to curettage of the socket. While supervoltage therapy and radium therapy with specially molded applicators have both given successful results, they entail so great a risk of osteoradionecrosis that they are seldom used. Often roentgenographic examination of the mandible elicits evidence of suspected bone invasion. Conventional therapy for carcinoma located in this area is mandibular resection together with a radical neck dissection in continuity even though nodal disease may not be apparent. In planning how much of the bone to remove, one must keep in mind the possibility of extension of the neoplasm along the dental canal. Various ways have been tried to restore continuity of the mandible following resection. Sometimes if the amount of bone removed is not too great the defect can be bridged by a bone graft, but keeping the defect small to permit this repair is indefensible if doing so jeopardizes removal of the lesion and a safe margin of normal tissue.

Cancer of the Superior Alveolar Ridge and Hard Palate

The superior alveolar ridge and the hard palate, which are contiguous structures, are rarely the sites of primary carcinoma although not infrequently they are secondarily involved by carcinomas arising in the maxillary antrum. In the case of the superior alveolar ridge, the lesions are usually low-grade verrucous epidermoid carcinomas. In contrast, neoplasms involving the hard palate are seldom epidermoid in origin but are predominately either adenoid, mixed tumors and adenocarcinomas arising from the minor salivary glands. Because of the immediately underlying bone and the relatively poor blood supply, malignant lesions in both of these structures respond poorly to irradiation. When this form of treatment is attempted, complications associated with osteoradionecrosis may be anticipated. Conventional therapy is surgical resection after careful study and roentgenographic survey of the involved area to determine the exact extent of the problem. For benign mixed tumors arising in minor salivary glands of the hard palate, local resection with removal of the underlying periosteum frequently suffices. For adenocarcinoma of the hard palate, through-and-through resection with adequate margin is mandatory. Most defects following extirpative procedures for carcinomas here can be corrected very satisfactorily by prosthetic dental devices. Metastasis from tumors in this area is a late development and the prognosis therefore is considerably better than for tumors anywhere else in the oral cavity.

NODAL METASTASIS FROM INTRAORAL CANCER

Therapeutic Node Dissection

The special problem of lymph nodal treatment for carcinoma of the lower lip has previously been dealt with in the discussion of that organ site and needs no further comment. Well established conventional therapy for clinically evident metastatic nodes from intraoral primary lesions is radical neck dissection. The lymphatic drainage from the intraoral cavity is in the general direction of the jugulodigastric group of nodes in the mid-neck where the digastric muscle crosses the internal jugular vein. While this group is most frequently the first involved clinically, others in the upper and lower portions of the cervical chain are often involved microscopically. Hence it is mandatory that all nodal groups be removed at the time of the dissection—en bloc removal of all lymph-bearing tissues from the mandible to the clavicle and from the midline to the trapezius muscle, the operation entailing removal of the jugular veins, the sternocleidomastoid muscle and the spinal accessory nerve.

Prerequisite to the application of radical neck dissection are: (1) control of the primary lesion (nodal disease should never be treated before the original focus is removed unless both are to be dealt with in continuity); (2) the nodes should be in an "operable" clinical stage; (3) there should be reasonable assurance of freedom from pulmonary and other distant metastasis; (4) the patient should be medically able to withstand the very modest risk of the surgical procedure. These conditions being fulfilled, all patients with clinical evidence of cervical metastatic disease should be treated by radical neck dissection. In the case of bilateral metastasis it is customary to do the homolateral side first and subsequently to do the contralateral side. However, under certain circumstances when it is felt that this staging would be unwise, a bilateral simultaneous radical neck dissection can be done. Temporary tracheostomy to assure an airway is mandatory with the simultaneous bilateral procedure, with the second side of a staged dissection and in any procedure in which the continuity of the mandibular arch is compromised.

Elective Node Dissection

An "elective" node dissection is a radical neck dissection that is done in cases in which, although there is no clinical evidence of metastatic extension to the nodes, there is probability that metastasis has occurred. It has been previously stated that the accepted policy for dealing with cervical node spread from intraoral primary lesions has been to reserve radical neck dissections for those cases in which there is clinical evidence of lymph node metastasis. In retrospect, it has become obvious that because of this rule many patients have been lost due to uncontrollable nodal metastasis which subsequently developed. Frequently by the time carcinomatous spread is clinically evident in the neck, the process has already passed beyond the capabilities of a radical dissection and the patient dies of contralateral, distant metastasis or, more often, of recurrent cancer near the site of operation.

Too often definite clinical evidence of metastasis in the cervical lymph nodes signifies incurability of the carcinoma. Because of this there has been a slow but rather general change in attitude toward adopting the policy of elective node dissection when appropriate. When a lateralized primary lesion (one that does not cross the midline) has been controlled by either operation or irradiation, it is felt that serious consideration should be given to elective radical neck dissection on the homolateral side. If the size, grade and history of the primary lesion make the likelihood of eventual metastatic disease seem remote, elective dissection is omitted. If, however, these same considerations point to the probability of eventual lymph node involvement (which occurs in 85 per cent of cases of lingual carcinoma) elective dissection is advised.

Elective neck dissection is not "prophylactic" in any sense of the word. The procedure does not prevent metastasis to the cervical lymph nodes. The operation is elective in that it is done before there is palpable and visible evidence of involvement, rather than waiting until surgical intervention is mandatory.

PROGNOSIS AND END RESULTS FOR INTRAORAL CANCER

The prognosis for treated intraoral carcinoma is inversely proportional to the size of the lesion, modified by the presence or absence of metastasis. In the author's experience, it is rare for nodal involvement to develop when primary lesions are less than 1 cm in diameter and unusual with those smaller than 2 cm. Treatment failures of original foci less than 2 cm in diameter are few. With increased size, the likelihood of therapeutic failure for the original focus increases, and the probability of regional or distant metastasis further diminishes the chance for successful management.

Composite five-year cure rates for various intraoral sites are shown in Table 1. These are the result of consolidating several large series of cases. It should be remembered that these data are from large clinics where special skills are available and are usu-

TABLE 1.—*5-Year Cure Rates (Per Cent) for Intraoral Cancer*

	Early (<2 cm)	Advanced (>2 cm)	With Nodal Metastasis
Lip	85	70	50
Tongue	80	35	25
Buccal Mucosa	60	40-60	20
Alveolar Ridge	65	60	0-5
Floor of Mouth	60	30	25

ally based on treated cases only, excluding cases lost to follow-up, operative deaths and persons dying of intercurrent disease. The over-all cure rates for treated patients are probably considerably less than given in Table 1 and the absolute cure rate for all who have the disease a fraction of these rates. This is indeed an unfortunate record for a disease so uniformly curable if treated early and properly and so accessible for early diagnosis and early treatment.

CANCER OF THE UPPER RESPIRATORY TRACT

Cancer of Nasal Fossa

Of the variety of benign and malignant tumors that arise in the nasal fossa, the most common are nasal polyps, which are fibroepithelial tumors arising from the turbinates. Most tumors in this area, whether benign or malignant, give symptoms relatively early, as they are likely to bleed and to obstruct the nasal passages. Hence, patients usually consult a physician early. Because of difficulties in exposing and viewing the lesions for purposes of excising tissue for biopsy, as well as the problem of bleeding, biopsy probably would best be done in a hospital and combined with a definitive therapeutic procedure. Worthy of note are the epithelial carcinomas arising in the nasal vestibule. These tend to be verrucous in nature and of low grade histologically; but despite aggressive surgical and irradiation therapy they tend to recur with bilateral cervical node metastasis developing eventually. Such lesions should be dealt with radically from the outset. Adenocarcinomas of minor salivary gland origin, lymphomas and high-grade epithelial carcinomas all may be encountered in the nasal passages. Small lesions can be successfully removed surgically; the larger are more often treated with an aggressive surgical approach supplemented by postoperative irradiation. Any treatment program should be preceded always by careful roentgenographic examination of the skull. Frequently tumors thought to be primary in the nasal fossa are found, on further study, to have perforated through the lateral wall from the maxillary sinus.

Cancer of Accessory Nasal Sinuses

Most carcinomas arising in the accessory nasal sinuses involve the maxillary sinus but primary involvement of the frontal, ethmoid or sphenoid areas may also occur. Pathologically most of these are epidermoid carcinomas although adenocarcinomas of mucous gland origin are not rare. Unfortunately because of their location, early lesions are essentially asymptomatic and until there has been sufficient growth of the neoplasm to result in perforation of the osseous walls, the patient is usually not aware of any difficulties. In the case of the maxillary antrum, the first symptom may be bulging of the canine fossa due to destruction of the anterior wall or bleeding from the nose because of perforation into the nasal fossa. Lesions may also present first in the buccal sulcus, while those arising in the upper portion of the maxillary antrum may be first evident because of ocular symptoms or blocking of the lacrimal duct. Diagnosis entails a careful roentgenographic study of the sinus structures to establish the extent of the involvement, and then usually operative intervention to get adequate biopsy material. If the bony walls of the antrum or other sinuses have not been perforated, it is necessary to open them surgically. In the case of the maxillary antrum this is easily done through a Caldwell-Luc approach. With the establishment of the nature of the process, the treatment is usually radical operation, but because most of these lesions are fairly advanced, this is frequently supplemented with postoperative or preoperative irradiation. In the more advanced and inoperable cases, treatment may be by radiation alone for palliation or sometimes clinical control of the disease. The prognosis for these lesions in general is not good. A five-year salvage of 25 per cent is considered excellent and in most reported series it is less.

Cancer of the Pharynx

Cancer of the Nasopharynx

Because of its location, most neoplasms arising in this area tend to be asymptomatic until late. Further, because of difficulty of visualization and access, biopsy and diagnosis may be delayed and repeatedly unsuccessful. Fortunately this is a relatively unusual primary site, but cancers that do arise here present multiple technical difficulties in diagnosis and treatment. While an occasional low-grade exophytic type of epidermoid carcinoma is encountered, this is the exception and most are high-grade anaplastic Grade IV epidermoid carcinomas which in the past were erroneously diagnosed as "lymphoepitheliomas." Although now and then lymphomas do develop here, the lymphoepitheliomas will be found on careful histologic investigation to be of epithelial origin.

The primary lesion may be undiscoverable by either indirect nasopharyngoscopy or by direct visualization with the nasopharyngoscope. Frequently the first symptom will result from involvement of the cranial nerves due to direct extension through the base of the skull. Quite as often the first indication is cervical node metastasis without any other symptom.

Biopsy is not difficult if the lesion can be visualized but frequently there is no indication as to the location of the primary lesion, and multiple blind biopsies, done repeatedly, may be necessary to determine the site of origin. Frequently the diagnosis must be established by biopsy of a cervical lymph node that is metastatically involved. Treatment of the primary lesion is almost invariably by radiation, using multiple external cross-firing ports with orthovoltage or supervoltage, sometimes supplemented by radium applicators placed in the nasopharynx. Although these tumors are usually radiosensitive and could be ablated by radiotherapy, usually the lesion is so far advanced by the time therapy is begun that it is unsuccessful. Treatment of metastatic nodes is at the outset irradiation, as is frequently the case for pharyngeal primary lesions; but if the nodal disease proves to be radioresistant, radical neck dissection is in order. Although cure rates of 25 per cent and higher have been reported in some series, the over-all prognosis for such lesions must be considered very poor.

Cancer of the Oropharynx

Anatomically the oropharynx includes the soft palate, the palatine tonsil, the base of the tongue and the pharyngeal walls. Malignant tumors arising in this area include intermediate grade carcinomas, the higher grade lymphoepitheliomas (anaplastic epidermoid) and lymphosarcomas. Although carcinomas here are usually first noted because of difficulty in swallowing, local pain or discomfort soon follows. Examination must include, as well as visualization, digital palpation and mirror examination if small tumors are to be discovered. Biopsy can usually be done with punch or cutting forceps under local anesthesia.

The unusual carcinomas of the soft palate and uvula may be very deceiving since they often are granulomatous or inflammatory in appearance, and only by biopsy can their true nature be determined. It is important that they be recognized as early as possible so that treatment can be begun at a time when these structures can be preserved. Otherwise extensive surgical sacrifice may make the patient a functional cripple unable to swallow. Fortunately, these lesions usually respond to irradiation therapy; smaller ones can be encompassed and treated with orthovoltage by peroral limiting cone; more extensive involvement will usually be controlled effectively with external therapy through cross-firing ports.

In the case of tonsillar primaries, it is sometimes easier to do a conventional tonsillectomy for diagnostic purposes. The not uncommon discovery of unsuspected lymphosarcoma or epidermoid carcinoma in specimens removed for other reasons indicates the necessity for histologic examination of all tonsils removed, particularly in adults.

Treatment of these lesions continues to be by external ports which cross-fire both tonsillar fossas as well as the upper cervical nodes. For small neoplasms, accessible by peroral ports, orthovoltage has given excellent results. For larger lesions involving the base of the tongue, supervoltage seems to offer definite advantages both from the standpoint of avoiding discomfort during therapy programs and in end results. The results with orthovoltage in the case of tonsillar cancer appear to be as satisfactory as with supervoltage, and cure rates frequently run as high as 50 per cent. The salvage for tumors arising in the other areas of the oropharynx has not been anywhere near as high.

Metastatic cervical nodes from primary carcinoma in this area are initially treated by irradiation, since it is usually possible to include them in the ports used to control the primary focus. If the pharyngeal process is controlled by irradiation and cervical nodes persist, conventional radical neck dissection should be carried out.

Cancer of Hypopharynx (Laryngopharynx)

Anatomically this area includes the posterior wall of the pharynx, the lateral and medial walls of the pyriform sinus and the relatively common site for carcinoma, the aryepiglottic fold. Almost all cancers here are epidermoid carcinomas of the intermediately differentiated, nodular type. Metastasis occurs early and the secondary lesions usually are situated along the course of the internal jugular vein. The symptoms that cause the patient to consult a physician are usually progressive dysphagia, difficulties in hearing and, somewhat later, hoarseness. Material for biopsy can be easily obtained by either direct or indirect pharyngoscopy. A number of surgical techniques have been utilized in an attempt to control lesions in this area, most of them involving either concomitant laryngectomy or multiple stages for reconstruction. Although there appears to have been some improvement in five-year cure rates by these techniques, the conventional therapeutic approach has been and continues to be radiation either by orthovoltage or supervoltage, the ports usually so arranged as to include the metastatic nodal area as well as cross-firing the primary lesion. The five-year salvage by radiation probably is less than 10 per cent. The only advantage of supervoltage over orthovoltage appears to be in minimizing discomfort to the patient during treatment and, because of this, better palliation in advanced cases.

While salivary gland tumors are relatively uncommon, they present a major therapeutic problem since those located in the parotid gland area are in close proximity to the facial nerve and if the potential functional disabilities attendant on injury to this structure are to be avoided, they must be handled with greatest respect. Most salivary gland tumors arise in the parotid gland (85 per cent), although the submaxillary gland (10 per cent) and the sublingual gland (1 per cent) are less frequently involved. Almost five per cent of these neoplasms arise in minor salivary gland tissue lining the intraoral cavity and in mucous glands situated elsewhere. About two-thirds of all salivary gland tumors are benign. From a practical standpoint, nearly all the benign processes fall into the group of "benign mixed tumors" although an occasional adenoma is encountered. Among the malignant neoplasms, the majority are adenocarcinomas (comprising 25 per cent of the total incidence), about one-half of them of the "mucoepidermoid" type. Malignant "mixed tumors" and squamous carcinomas each represent five per cent of the total and miscellaneous malignant neoplasms of various types round out the histologic picture. There appears to be no particular difference with reference to sex. The average patient when first seen is around 45 years of age, although many are younger.

The usual history is that of a slowly growing, painless mass in front of either ear. Often patients have been aware of the nodule for three years or more before they consult a physician. The benign tumors, because of their slow expansion, displace the facial nerve rather than involve it, and for this reason paresis is seldom associated with them. If facial nerve palsy is evident the process is probably not benign although this is not always a concomitant of malignancy. The mixed tumors are usually well circumscribed, freely movable, sometimes present behind the lobe of the ear or in the retromandibular space. Sometimes a malignant process may be indicated by unusual stony hardness on palpation and the absence of encapsulation. The diagnosis of parotid tumors may be facilitated by sialography. The instillation of Lipiodol® into Stensen's duct will afford roentgenographic delineation of the duct system, thereby localizing the tumor and indicating its size. This visualization may assist in planning the operative procedure but its value in distinguishing between malignant and benign neoplasms is limited. Because of the great hazard of seeding tumor cells in either a needle tract or by the incisional technique, biopsy before the definitive operative procedure usually is not recommended.

Treatment is by surgical excision. In the case of tumors arising in the submaxillary or sublingual glands, this may be achieved by doing a suprahyoid neck dissection on the involved side and removing the entire salivary gland that is involved. In the case of parotid tumors, the approach is considerably more difficult. Since 65 per cent of the parotid tissue lies superficial to the facial nerve and but 35 per cent beneath it, most neoplasms of this gland obviously will be located in the superficial lobe. The conventional surgical approach, which offers the greatest potential for cure, the greatest safety for the facial nerve and the least likelihood of seeding the operative area, is superficial parotidectomy, or excision of the superficial lobe of the parotid gland. A "Y" incision is made about the lower portion of the ear and continued along the posterior border of the mandibular ramus. The skin flaps are dissected back and the facial nerve is exposed as it emerges from the base of the skull through the stylo-mastoid foramen. Dissection is then continued forward on the branches of the nerve, the superficial parotid lobe being removed as the operation progresses. With the older technique of enucleating parotid neoplasms, almost invariably the capsule was ruptured or the involved tissue was not completely removed. In the instance of carcinoma involving the tissues about the facial nerve, it is necessary to deliberately resect the facial nerve, and the parotidectomy is usually performed in continuity with a homolateral radical neck dissection.

The cure rate for benign parotid tumors properly treated by superficial lobectomy is in the range of 98 per cent. Several large series of carcinomas have been reported with five-year survival rates in the neighborhood of 40 per cent. Since the data usually exclude inoperable cases, the actual salvage is considerably less, probably 25 per cent or less. Radiotherapy appears to have no primary role in the curative management of parotid lesions but may be used to advantage following reoperation for recurrent mixed tumors and as a postoperative adjuvant to radical removal of carcinomas. Benign mixed tumors of minor salivary glands seem to do uniformly well by simple enucleation without much tendency for subsequent recurrence. Carcinomas arising in minor salivary glands, although histologically low grade, spread early by lymphatic and perineural pathways, hence removal is seldom complete and cures are unusual.

2009 Wilshire Boulevard, Los Angeles, California 90057.

Cutaneous Cancer and Precancerous Lesions

WERNER W. DUEMLING, *M.D.*, CLYDE W. NORMAN, *M.D.*, and PAUL G. MEYER, *M.D.*, San Diego

PRIMARY CANCER of the skin is one of the most common forms of malignant tumor. Markus[3] stated that cancer of the skin comprises 9 to 26 per cent of human cancers, depending on geographical location within the United States. An important factor in the genesis of skin cancer appears to be exposure to sunlight. A recent study[1] contrasted cutaneous carcinoma as observed in Texas with that seen in Minnesota. This study concluded that skin cancer occurred 5.7 times more often in Texas than in Minnesota, that the average age of patients in Texas was ten years less and multiple lesions occurred more frequently.

The protective factor of normal pigmentation also appears to be an important one in determining the incidence of skin cancer. In Markus' study, cancer of the skin was 27 times more common in white men than in Negro men. In the white race, blue-eyed people are more susceptible to skin cancer than brown-eyed people, and the red-haired type is the most susceptible.

Since, as Pinkus[7] has shown, the human epidermis is composed of several types of genetically independent cells which have very different biologic and biochemical characteristics, it is not surprising that a number of different types of cancer appear on the skin and that these different types have widely varying potentials for their hosts. In addition, there are a number of benign and precancerous lesions of the skin, the recognition and treatment of which form an important segment of the physician's task. If an informed clinical examination does not permit a positive diagnosis, biopsy and microscopic examination are indicated. In all lesions in which the question of malignant change arises, histologic examination is mandatory.

PRECANCEROUS LESIONS

The recognition and treatment of precancerous lesions of the skin is an important and satisfying aspect of the physician's task. In perhaps 20 to 30 per cent of these conditions an epithelioma (usually squamous cell type) develops if the lesion is left untreated.

Senile keratosis, although occurring predominantly in persons past middle age, is not dependent primarily upon the passage of time for its development but is chiefly the result of actinic radiation. These lesions are often found in association with other changes characteristic of senile skin, such as atrophy, hyperpigmentation, unusual dryness, and scaling. The lesions occur mainly over the temple and other parts of the face, ears, sides of the neck, and dorsal surfaces of the hands. They are usually moderately elevated, firmly adherent crusts, yellowish brown or black in color. When forcibly removed their under surface shows horny prolongations, which fit into depressions on the surface of the skin. The surface of the skin is moist, red, uneven and bleeds easily. At times it is superficially ulcerated.

The lesions of arsenical keratosis, which follow the ingestion of arsenic, resemble those of senile keratosis, but occur on the palms, fingers and soles, whereas senile keratotic lesions predominate on the backs of the hands and on the face. Arsenical pigmentation is associated with keratosis in about half the cases. However, keratosis following ingestion of arsenic may appear on the trunk, face, scalp and extremities independent of arsenical keratosis of the palms and soles, or independent of arsenical pigmentation.

A cutaneous horn is a special type of senile keratosis in which keratin remains adherent, amassing to form a hornlike process. The base of a cutaneous horn is regarded as more likely to be the site of squamous cell carcinoma than is the ordinary senile keratotic lesion.

Leukoplakia may occur in any part of the buccal cavity, on the vermilion border of the lips and on the vulva and vagina. It is the mucous membrane analogue of senile keratosis. If the area of leukoplakia shows no thickening or ulceration, a period of observation is in order, with an effort made to remove all possible sources of irritation. In leukoplakia of the mouth, smoking of any type is absolutely contraindicated. In the development of leukoplakia in some patients there can be no question as to the role of irritation from tobacco, from a heated pipestem, or from pulling away of epithelium by adherence of cigarette paper.

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In patches of leukoplakia which persist and become at all thickened, representative specimens should be taken for biopsy. If the changes are those of ordinary leukoplakia, destruction of the area by electrocoagulation or the application of trichloracetic acid may be feasible and effective. However, should biopsy reveal frankly anaplastic changes, surgical excision or treatment by irradiation is advisable.

Bowen's disease (squamous cell carcinoma *in situ*) ordinarily appears as a single scaly, dull red patch which is irregular in outline and gradually increases in size. Crusting and superficial ulceration may occur. It shows a predilection for the trunk, but it may involve any portion of the skin and certain of the mucosal surfaces. Characteristically, Bowen's disease spreads laterally and does not commonly spread into the dermis. However, when it does invade the dermis, the tumor is usually a highly malignant one. Multiple lesions are rare.

Erythroplasia of Queyrat may be considered as Bowen's disease of the mucous membranes, with a strong predilection for the glans penis and prepuce. The lesion is a well defined area with a brilliant red, velvety surface. It progresses slowly and indefinitely and is resistant to local treatment, unless the treatment is of destructive nature. If the lesion is allowed to go untreated, the eventual development of squamous cell carcinoma is to be anticipated. Early circumcision may be curative. If biopsy reveals anaplastic squamous cell carcinoma, surgical removal is indicated, or radical amputation of the penis with or without regional lymph node dissection.

Xeroderma pigmentosum is a rare disease, occurring in the early years of life, in which malignant tumors of the skin develop and almost always results in early death. It seems likely that the basic disability is pronounced sensitivity to sunlight. All keratotic areas should be removed by electrodesiccation or total excision as rapidly as they develop. An occasional patient may be temporarily benefited by the daily ingestion of methoxsalen.

Melanotic freckle of Hutchinson (lentigo maligna) tends to occur after puberty and at an average age of 40. Approximately one-third of melanotic freckles develop into melanocarcinomas. Metastasis develops slowly and the process does not tend to be as rapidly fatal as that which develops from malignant melanoma. The treatment of choice is to remove the lesions surgically as early as is feasible. Radical operation is usually not necessary. If the lesion is recognized before malignant change has occurred, it should be removed either by excision or by electrosurgical means.

Sun-damaged and x-ray damaged skin, as well as certain scars (from thermal burns, lupus vulgaris, lupus erythematosus) may be considered precancerous and occasionally are the sites of squamous cell epithelioma.

In skin long exposed to sunlight, senile degeneration of the collagen and elastic fibers is a common finding. In chronically sunburned patients, typical firm, adherent scaly patches and plaques of senile keratosis may occur, and the production of malignant tumors of the skin is stimulated. Protection of susceptible skins from undue chronic exposure to direct actinic radiation is the most important single prophylactic measure against skin cancer.

Chronic radiodermatitis may result from repeated small doses of x-ray as well as from one or a few large doses. The skin in chronic radiodermatitis is prematurely aged, atrophic, dry and parchment-like. In addition, there are patches of depigmentation and hyperpigmentation, together with vascular damage. Telangiectasia is one of the hallmarks of chronic radiodermatitis. Trauma to areas of radiodermatitis promptly results in ulceration, or the ulceration may appear without any cause. As the years pass, hyperkeratotic lesions develop, similar to the senile keratotic lesions seen in sun-damaged skin. Such lesions are definitely cancerous or "precancerous."

TREATMENT OF PRECANCEROUS LESIONS

As a prophylactic measure sun, soap and other drying agents should be avoided, particularly if the patient is blonde or red-haired or the skin is aging. When sun exposure is unavoidable, exposed areas should be kept well coated with Nutraderm® lotion, Lubriderm® cream or Nivea® skin oil. The local use of sunscreen creams (A-Fil, Neo-A-Fil) is helpful. Recent reports indicate that a daily administration of 100,000 to 200,000 units of aqueous vitamin A may be helpful.[4] Patients who tend to develop numerous lesions should be checked at intervals of three to six months for removal of all suspicious areas. The ingestion of methoxsalen (Oxsoralen,® Meloxine®) may increase sun tolerance under certain specific conditions by increasing the thickness of the stratum corneum.

Keratosis

Where practicable, biopsy of keratotic lesions should be done, since the most astute clinician can never be certain by clinical appearance alone that the lesion is indeed senile keratosis and that malignant change has not occurred. Acceptable treatment procedures include (1) electrodesiccation, (2) surgical excision, (3) daily application of 20 per cent podophyllin in compound tincture of benzoin, covering with dry gauze (this is particularly helpful for those who have unusually large lesions and those in whom complete destruction would be impractical), (4) application of liquid nitrogen or trichloracetic acid and (5) dermabrasion. X-ray therapy is usually contraindicated in the treatment of these lesions.

Leukoplakia

Predisposing factors are tobacco (smoking, chewing, snuff), syphilis, projecting dentures, faulty occlusion, projecting teeth or dental caries and avitaminosis. Prolonged irritation from the use of tobacco is probably the most significant predisposing factor. Leukoplakia must be differentiated from lichen planus, secondary syphilis (mucous patch), moniliasis, lupus erythematosus and lichen sclerosus et atrophicus.

Prophylactic measures for oral lesions may cause regression. Tobacco in all forms should be discontinued. Dental examination is indicated when oral lesions are present, and points of dental irritation should be corrected. The dissolving of buccal vitamin A tablets (75,000 to 150,000 units daily) in the mouth may be helpful.[4] Equal parts of elixir Benadryl (dipenhydramine hydrochloride) and water as a mouth rinse three times daily after meals has been recommended. If the lips are involved, the routine use of a sun-screening lipstick is recommended.

In advanced lesions additional measures should include: (1) Biopsy, if the lesions are ulcerated, fissured or decidedly thickened, and (2) destruction of the lesion by curettage followed by the local application of trichloracetic acid, by electrodesiccation or by surgical excision. Advanced carcinoma of the mouth carries a poor prognosis.

Bowen's Disease

Although considered among the precancerous dermatoses, this lesion is actually a form of intraepidermal squamous cell epithelioma. Eventually the lesion may invade the cutis as a squamous cell cancer. Histologically the changes that are seen are similar to those seen in the other precancerous dermatoses. Treatment should consist of biopsy, followed by removal of the lesion by surgical excision, electrodesiccation or x-ray therapy.

Erythroplasia (Queyrat)

This is an uncommon precancerous lesion which may occur over the male and female genitalia. The slowly enlarging lesions are sharply marginated, possess a moist, brilliant red, velvety surface. If untreated, squamous cell carcinoma may develop eventually. When the diagnosis is definitely established, the lesion should be thoroughly destroyed by surgical excision or electrodesiccation. If biopsy reveals anaplastic squamous cell carcinoma, surgical removal is indicated, or radical amputation of the penis with or without regional lymph node dissection.

SQUAMOUS CELL CARCINOMA

Squamous cell carcinoma makes up 15 to 20 per cent of skin cancers.[1] Practically all epitheliomas in the mucous membranes of the mouth, nasopharynx and genitalia are squamous cell epitheliomas.[5] Some 75 per cent of squamous cell carcinomas occur in the region between the neck and scalp, and an additional 20 per cent on the dorsum of the hand.[6] The lower lip is the site of almost a third of all squamous cell carcinomas.[3]

Although there are instances in which squamous cell carcinoma arises from skin which appears grossly normal, in many cases it develops from some preexistent lesion, as was previously noted. In view of the more favorable prognosis associated with early treatment, it is well to be aware of these preceding conditions. Arising from the squamous cells of the epidermis, the disease is characterized by rapid evolution and metastasis through the lymph channels. Most frequently the lesions involve the mouth, tongue or lips; less frequently the mucous membrane of the penis, vulva, eyelids and nose.

Squamous cell carcinomas have certain clinical characteristics that should arouse suspicion. The tumor often grows rapidly, evolving as a crateriform ulcer with a wide, rolled, pearly border and pronounced induration. Verrucous, papillomatous or fungoid lesions may also be seen.

Microscopically the features are rarely confused with those of other new growths, except keratoacanthoma or psuedoepitheliomatous hyperplasia, and then the distinction is a matter for decision by a histopathologist. In the early stage one sees a prolongation and widening of the rete pegs, with an intact basal-cell layer. The squamous cells are dyskeratotic, and mitotic figures are numerous. In a later stage the basal-cell layer may disappear, and projections of squamous cells invade the derma, producing nodes, columns and irregularly shaped masses. The cells are swollen and degenerated. The pearls or whorls so characteristic of squamous cell epithelioma are an attempt on the part of the cells to carry out their normal function. They are not always present, but consist of a central cornified nucleus surrounded by rows of hyperkeratotic and parakeratotic cells.

TREATMENT OF SQUAMOUS CELL CARCINOMA

Since the prognosis of squamous cell cancer depends upon many factors—grade of malignancy, location, age of patient, tumor bed, duration, radiosensitivity and metastasis—no rule of thumb can be laid down for treatment. Early noninvasive lesions before metastasis occurs can be cured by any of the recognized procedures—excision, electrosurgical removal and curettage, or x-ray therapy. For lesions of the mucous membranes of the mouth the prognosis is notoriously poor and they respond best to radium or radon implantation and dissection of the cervical lymph nodes, or x-ray therapy to the regional lymph nodes.

Since cancer of the lips is only moderately radiosensitive, the method of choice is surgical removal, with resection of all palpable nodes. If there are no palpable nodes and the local lesion is early, excision, x-ray therapy or electrodesiccation may suffice. This also holds for squamous cell lesions on the backs of the hands. Carcinoma of the penis and female genitalia is practically always of the squamous cell type arising on a preexisting lesion of leukoplakia. Because of the rich vascularity and lymphatic supply, metastasis occurs early, and radical operation together with dissection of the regional lymph nodes is indicated.

BASAL CELL CARCINOMA

Basal cell carcinoma comprises about 65 per cent of all cutaneous carcinomas. Some 94 per cent of the lesions occur on the head and neck. It is a destructive tumor which is obviously not benign, yet seldom does metastasis or rapid anaplastic growth occur. If it is not removed completely, it progresses slowly but relentlessly, causing death by invasion into underlying structures. Growth is always relatively slow, and if a lesion has grown to one centimeter in diameter in the course of six months, it is more likely to be a squamous cell carcinoma.

The typical basal cell carcinoma has highly characteristic clinical features. When it is only a few millimeters in diameter the lesion may be recognized on careful inspection as a discrete, pale, waxy nodule. Tiny bright red telangiectatic vessels are characteristic. The surface of the early lesion is smooth, but as it enlarges a central depression occurs, and the border of the lesion may assume a slightly nodular appearance. Eventually the lesion ulcerates and becomes crusted. The tumor tissue which surrounds this is raised and ordinarily has a rolled or everted appearance.[7]

There are several variants of the typical basal cell carcinoma, namely, morphea-like or fibrosing basal cell carcinoma and superficial basal cell carcinoma. In the former the lesion is a slightly raised, firm, light yellow, cicatricial plaque of fibrous tissue with a poorly defined, serpiginous and only moderately raised border. Superficial basal cell carcinoma is less destructive than the typical rodent ulcer. This lesion occurs chiefly on the trunk, is often multiple and superficially resembles patches of psoriasis or seborrheic dermatitis. However, examination with a lens shows a raised, fine, thread-like border.

No other invasive tumor is so amenable to cure as basal cell carcinoma. For lesions of moderate size, recurrence following adequate treatment will be considerably less than 5 per cent. Nevertheless, careful follow-up examination for a period of at least two years is necessary.

TREATMENT OF BASAL CELL CARCINOMA

The most common method of treatment is desiccation and curettage. Since the lesion is softer than the surrounding tissue, the experienced physician, using a small curette, can follow small strands of tumor cells into otherwise normal tissue or detect undermining of normal-appearing skin by the tumor. This is important in areas such as the naso-labial fold, where basal cell carcinomas frequently tend to be of the "iceberg" type in which the visible portion on the surface may be a relatively small portion of the entire lesion.

Excision is satisfactory but must be done with care in morphea-like or fibrosing basal cell carcinoma, since the borders of such lesions are poorly defined. Excision followed by grafting on areas such as the nose is hazardous, for if some of the epithelioma is left and covered by grafted tissue, it will grow and spread throughout the grafted area.

Roentgen ray and, to a lesser extent, radium are frequently and satisfactorily used. Use of roentgen rays in small, divided doses makes for less damage to the skin than may occur with radium, which is more difficult to control. Radiation is used less frequently than excision in young people, because treatment results in some degree of radiodermatitis which might pose more of a hazard in later years than the scar resulting from other forms of therapy.

When basal cell carcinoma is far advanced and has spread to wide areas and extended to structures below the skin, chemosurgical removal by the Mohs technique may bring about cure without the mutilation that might be entailed in excision with wide margins of normal tissue. Although painstaking, time-consuming and requiring the services of a surgical team and a technician, chemosurgery has proven valuable in selected cases.

2561 First Avenue, San Diego, California 92103 (Duemling).

REFERENCES

1. Lynch, F. W., Lehman, C. F., and Pipkin, J. L.: A contrast of cutaneous carcinoma as observed in Texas and Minnesota, Arch. Dermat., 79:275, March 1959.

2. MacKee, G. M., and Cippollaro, A. C.: Cutaneous cancer and precancer, a practical monograph, Am. J. of Cancer, New York, 1937, p. 131.

3. Markus, S. C.: Cancer Morbidity Series, No. 7, U.S. Public Health Service, Washington, D.C., 1952.

4. Noojin, Ray M.: Precancerous dermatoses, J. of Med. Assoc. of Georgia, 51, No. 4:170, April 1962.

5. Ormsby, O. S., and Montgomery, H.: Diseases of the Skin, ed. 8, p. 879, Lea and Febiger, Philadelphia, Pa., 1954.

6. Pillsbury, D. M., Shelley, W. B., and Kligman, A. M.: Dermatology, pp. 1141, 1155, W. B. Saunders Co., Philadelphia, Pa., 1956.

7. Pinkus, H.: Concept of symbiosis applied to normal and abnormal growth in human epidermis, Dermatologica, 117:369-379, Nov. 1958.

CASE REPORTS

Relapsing Fever—Successful Treatment with Demethylchlortetracycline (Declomycin®)

MARTIN KLEIN, M.D., Buena Park

THE INCIDENCE of relapsing fever, or at least the endemic form of the disease (which is caused by *Borrelia recurrentis*), appears to have decreased in recent years. Whether this is a true or an apparent decrease will be discussed below. The purpose of this paper is to report a case and thereby alert clinicians to consider this diagnosis when confronted by a patient who has been in the endemic area (which in this country is the western and southwestern states) and has the non-specific symptoms of fever, headache, generalized "achiness," nausea and vomiting that are characteristic of mild relapsing fever. Especially if these symptoms have been recurrent they should turn suspicion toward this disease.

REPORT OF A CASE

A 47-year-old Caucasian housewife and pharmacy clerk spent the Labor Day weekend of September 2-4, 1961, at a mountain resort in San Bernardino County. Upon her return home she noticed what appeared to be insect bites on her back. Subsequently a companion who was with her at that time said that the lesions were due to ticks which she had picked from her back.

On September 9 nausea and vomiting developed and the body temperature was 101°F. A physician who examined the patient then was reported to have believed she had a urinary tract infection and to have prescribed sulfisoxazole (Gantrisin®) 1 gm every eight hours. On September 15, 1961, she was seen by the author with complaint of recurrence of nausea, headache, anorexia and nervousness. There was no fever. The only positive physical finding was a grade I aortic systolic murmur which had been noted on a previous examination in April, 1961. No abnormality was noted in the urine and sulfisoxazole was discontinued. Prochlorperazine (Compazine®) was given for control of nausea.

When next observed, October 3, she said that on September 29 she had had oral temperature of 103.2°F, chills, nausea, pain in the abdomen and back, dysuria, urinary frequency and nocturia. The latter two symptoms, she believed, might have been due to ingestion of large amounts of fluids when these symptoms began. The patient said she had taken phenylazodiaminopyridine hydrochloride (Pyridium®) without prescription and was afebrile the following day, September 30. On October 2 she had chills without fever. She also said that her right wrist was numb periodically. Results of examination were again within normal limits. No abnormality was noted on examination of the urine.

The patient was next seen on October 9, 1961, with complaint of the onset the previous evening of chills, fever, "aching all over," nausea and urinary frequency. This was symptomatically the worst episode. Oral temperature was 102.2°F, the pulse rate 102. The face was flushed. Slight lower abdominal tenderness was noted. The previously noted aortic systolic murmur was still present. Urinalysis showed a trace of albumin.

The patient entered the hospital that evening. Oral temperature was 104°F at that time. Upon routine examination of a specimen of peripheral blood for a leukocyte determination, many *Borrelia* spirochetes were noted. Leukocytes numbered 12,100 per cu mm with 77 per cent total neutrophils, 3 per cent stabs, 13 per cent lymphocytes and 10 per cent monocytes. Hemoglobin content was 10.2 gm per 100 ml and the hematocrit was 32.5 per cent. Urinalysis showed 2 plus albumin, 2 to 4 leukocytes per high power field and 8 to 10 coarsely granular casts per low power field. On October 10 the urine showed 3 plus albumin with 0 to 1 leukocytes per high power field. The blood urea nitrogen was 13.5 mg per 100 ml, total bilirubin was 0.35 gm per 100 ml, serum glutamic oxalacetic transaminase 4 units, thymol turbidity 7 units, and cephalin flocculation 2 plus. On October 12 the patient became afebrile without treatment, and examination of a specimen of blood was negative for *Borrelia*. Leukocytes numbered 9,250 per cu mm with the cell differential within a normal range. The hemoglobin content was 11.1 gm per 100 ml and the hematocrit was 33 per cent.

From the Martin Luther Hospital, Anaheim, California.
Submitted July 24, 1963.

The patient was discharged from the hospital and demethylchlortetracycline therapy was started—300 mg every six hours for five days and 150 mg every six hours for the next five days. The delay in treatment was to avoid the possibility of a Herxheimer-like reaction. The patient was observed several times in the next six weeks and she remained afebrile and clinically well.

COMMENT

Question may be raised as to whether the patient was actually cured by demethylchlortetracycline or the disease had run its natural course, as the drug was not given until she was afebrile and manifesting clinical improvement. However, starting administration of the antibiotic while the patient was febrile would not have been conclusive either, inasmuch as the febrile episodes are of short duration in this illness. In the untreated patient who recovers, the disease usually runs a self-limited course that includes three or four relapses (occasionally as many as ten), each episode becoming milder. The mortality rate associated with the endemic disease varies from 2 to 5 per cent. In the past the effectiveness of drug therapy in this disease has been judged by the prevention of relapse and by how rapidly body function is restored. The fact that in the present case the last relapse was the most severe, makes one suspect that further relapses would have occurred if the patient had not been treated.

The diagnosis in this case was owing to a technician's alertness when examining a specimen of blood obtained at the peak of fever. If one is alerted to the possibility of this disease in a given case, both thick and thin smears of blood will be made at the febrile peak, and if these are negative for *Borrelia*, then animal inoculation (young white rats are best) can be done. Numerous in the blood during the acute febrile episode, the parasites disappear entirely in the afebrile period.

TREATMENT

With the advent of the tetracyclines, treatment of this illness has been eminently successful. Most of the studies have been reported from Africa,[3,5,9,12] with one from Jordan[1] and one from Spain.[4] Single doses as low as 0.5 gm of chlortetracycline or oxytetracycline have been successful in curing—that is, preventing relapse—in a high proportion of patients treated, although larger amounts have been recommended. Diaz[4] reported tetracycline used in a dose of 250 mg every six hours for 48 hours was highly successful. American textbooks recommend dosages from 1 gm a day for seven days[10] to 3 gm a day for three to four days, followed by 2 gm a day for three to four days.[6] These dosages would seem to be more than adequate. Demethylchlortetracycline, which has not been previously reported as used in treatment of this disease, is apparently equally effective, judging by the experience in the present case. The older arsenical compounds have little place in treatment today. Although penicillin in high dosage has been found effective, there is a fairly high relapse rate, and drug resistance has been reported.[7] Sulfonamides, as was noted in the case here reported, are ineffective.

INCIDENCE

In the 20 years 1921-1941, 253 cases of relapsing fever were reported in California.[11] From 1942 to 1961 inclusive, 138 cases were reported,[8] 102 of them in the first ten years of the period and 36 in the second. In all periods, most of the cases have been reported from mountain areas above 5,000 feet.[11] In such areas, ticks of the genus *Ornithodoros* are the vectors; and rodents, mainly chipmunks and Tamarack squirrels, are the animal reservoirs. Infected chipmunks often build nests in cabins in these areas during the winter. The infected ticks remain, oftentimes to infect the summer vacationist.[2]

It is safe to assume that some of the decreased incidence of this disease is due to public health measures that destroy the ticks and their habitat. On the other hand, with the rapid population growth in California in the past 20 years and the consequent larger number of vacationers exposed in the endemic areas, it would seem that there would be more cases. It is likely that many cases go undiagnosed. The incubation period varies from three to fifteen days, the average being seven days. A vacationist returning home and becoming ill may be diagnosed as having the "flu." Then, if broad spectrum antibiotics, notably the tetracyclines, are prescribed and the patient is cured, the true diagnosis never comes to light.

SUMMARY

A case of relapsing fever occurring in Southern California, successfully treated with demethylchlortetracycline, is reported. The decrease in incidence in the last ten years is felt to be due, in part, to failure in diagnosis due to the widespread use of broad spectrum antibiotics for treating "fever."

5152 Beach Boulevard, Buena Park, California.

REFERENCES

1. Babudieri, B.: Relapsing fever in Jordan, Bull. World Health Org., 16:911, 1957.

2. Beck, M. D.: Present distribution of relapsing fever in California: a symposium on relapsing fever in the Americas, Publication 18, A.A.A.S., Washington, D.C., 1942, p. 20.

3. Cherry, J. K. T.: The prevention and treatment of tick-borne relapsing fever with special reference to Aureomycin

and Terramycin, Tr. Roy. Soc. Trop. Med. & Hyg., 49:563, 1955.

4. Diaz, Ferron E.: Recurrent fever and Tetracyn, Rev. Clin. Espan., 64:97, 1957.

5. Kapoor, P. D.: An attempt to assess the relative effectiveness of four drugs in relapsing fever, E. African Medical Journal, 29:449, 1952.

6. Magnuson, Harold J.: Relapsing fever: Current Therapy 1962, W. B. Saunders Co., Philadelphia, 1962, p. 40.

7. Ordman, David: Relapsing fever in Africa, Central African Journal of Medicine, 3:347, 1957.

8. Personal communication from the State of California, Department of Public Health.

9. Trowell, H. C.: Treatment of tick-borne relapsing fever in East Africa with special interest to Aureomycin, E. African Medical Journal, 28:402, 1951.

10. Turner, Thomas B.: The Spirochetes: Bacterial and Mycotic Infections of Man, ed. by Dubos, R. J., 3rd Ed., J. B. Lippincott Co., Philadelphia, 1958, p. 539.

11. Wynns, H. L.: Epidemiology of relapsing fever: a symposium on relapsing fever in the Americas, Publication 18, A.A.A.S., Washington, D.C., 1942, p. 100.

12. Yeo, R. M.: Tick-borne relapsing fever in Witswatersrand gold mines: treatment with Aureomycin, S. African Medical Journal, 24:457, 1950.

Mesenteric Panniculitis Associated With Trauma

PAUL MICHAEL, M.D., and
JOHN GRATIOT, M.D., Monterey

MESENTERIC PANNICULITIS is an unusual condition sometimes encountered at surgical operation and only sporadically reported in the medical literature. It is rarely diagnosed before operation, as there are few criteria which would make the clinician aware of the condition. Although considered rare, it is probably actually more common than the isolated case reports would lead one to believe. Many cases of a mild nature may go unnoticed, only to be discovered as an incidental finding at autopsy. Differential diagnosis before operation may include pancreatic cyst, lipoma, liposarcoma or lymphosarcoma.

Crane and coworkers[3] reported five cases of lipodystrophy of the mesentery in 1955 and stressed the nonneoplastic properties of the condition. Several reports of similar lesions have appeared in the medical literature under different terms: lipogranuloma of mesentery, isolated lipodystrophy,[3,8,12] retractile mesenteritis,[6,10] nodular nonsuppurative panniculitis,[1,2,8,11] and mesenteric panniculitis.[4,7] It has been thought by some investigators that the condition is a form of mesenteric manifestation of Weber-Christian disease,[5] the lesions having a similar microscopic appearance. However, most observers have been reluctant to use either the latter term or Steinberg's[9] *systemic nodular panniculitis in* referring to the condition for these terms intimate diseases of a more serious nature.

Mesenteric panniculitis should not be confused with Whipple's disease. It is usually a benign condition, requiring only confirmation of the diagnosis by biopsy. The majority of patients recover spontaneously. It affects middle-aged or older patients and is somewhat more common in males.

The cause is unknown but trauma has been incriminated in some instances. Certain drugs (iodides) and allergic sensitivity have also been cited. No cases have been reported due to bacterial or viral infection.

Clinical Features

The patients usually complain of vague abdominal pain or discomfort, with or without fever. The symptoms may be present for months or even years. Sometimes the disease regresses spontaneously, then recurs in severe form requiring surgical intervention. On physical examination a mass is usually palpable in the upper abdomen, which may or may not be tender. Roentgenographic findings are not diagnostic in themselves, but show some abnormal displacement of the surrounding viscera with the stomach being pushed upward and forward. There may be a delay in the transit of barium through the proximal jejunum in association with displacement of the loop anteriorly. Grossman[4] reported a splayed appearance of the small bowel. No abnormalities are noted in the large bowel, and intravenous urography is unrevealing. Results of laboratory work are within normal limits.

Gross Appearance

Mesenteric panniculitis has its origin in the root of the mesentery with a distal spread to peripheral margins. However, in some mild cases the lesion remains restricted to the root without further extension. A characteristic of the lesion is a tan-yellow color and there is usually some thickening of the overlying peritoneum. The mesentery is firm, somewhat indurated in consistency and nodular. Sometimes the surface has a mottled appearance, and in some cases there are areas of hemorrhage. In considering differential diagnosis, liposarcoma or lymphosarcoma certainly would be included until examination of a frozen section. The small bowel is not involved and other areas of intraabdominal fat seem immune to the process.

Microscopic Appearance

Distorted fat cells are seen on microscopic examination of sections, with scattered foci of fat necrosis containing young lipoblasts with foamy cytoplasm, macrophages, polymorphonuclear neutrophils, histiocytes, lymphocytes and delicate fibroblasts. There may be some involvement of adjacent lymph nodes with the appearance of foam cells and lipid vacuoles.

Submitted July 11, 1963.

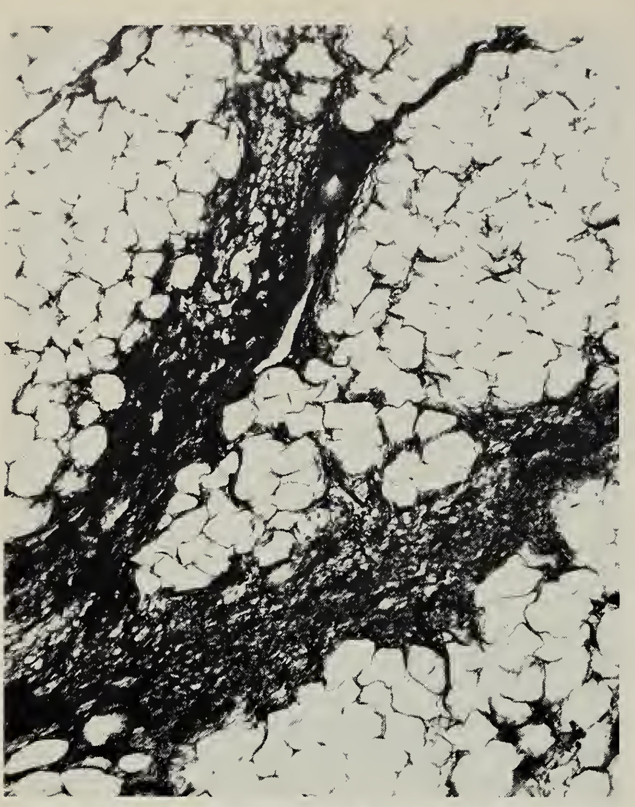

Figure 1.—Photomicrograph showing cellular infiltration of fat and fat necrosis (×150).

Because trauma has been mentioned as a possible etiologic agent in the disease, the following case, an example of mesenteric panniculitis following injury, is reported.

REPORT OF A CASE

A 45-year-old white man of Italian descent was admitted to the Monterey Hospital on May 12, 1963, with chief complaint of upper abdominal pain since January, 1963.

Beginning in the right abdomen and flank, the pain radiated to the right lower abdomen and the midlumbar area. Then in the two months before the patient was put in hospital it had been centered in the upper abdomen, radiating to the lower thoracic and upper lumbar back. The pain seemed to be more severe after meals, and was accompanied by an excessive amount of gas and belching. There was no history of nausea, vomiting, hematemesis or melena. In the period since the pain had begun the patient's weight had decreased 20 pounds.

In an automobile accident in 1957 the steering post had struck him in the upper abdomen. One left lower rib was fractured and he was incapacitated for only two or three days.

On physical examination a rounded mass that occupied a good part of the left upper quadrant of the abdomen was seen. To palpation it was firm and smooth, about 10 cm in diameter, extending to the midline and was not fixed. The impression was that the tumor was most probably a pancreatic cyst—perhaps a pseudo-cyst resulting from the automobile injury in 1957.

No abnormalities were noted on routine examination of the blood and urine. Serum lipase and amylase and blood sugar were within normal limits.

Intravenous pyelograms, a cholecystogram and a barium enema study revealed nothing abnormal but a gastrointestinal series showed a retrogastric mass displacing the stomach anteriorly. A pancreatic cyst was considered the most likely cause.

At exploratory laparotomy performed through a left upper paramedian incision, the liver, gallbladder, stomach and colon appeared normal and no pancreatic cyst could be identified.

At the base of the mesentery of the small intestine, there was a mass approximately 10 cm in diameter. This lesion thickened the mesenteric base to 6 or 8 cm, extending superiorly in the retroperitoneal area. It was firm and somewhat indurated with a mottled orange-yellow discoloration. The mass was well delineated from the peripheral mesenteric fat.

Biopsy of a frozen section of tissue from this mass showed panniculitis. Removal of the mass was impossible because of the necessity of sacrificing the superior mesenteric vessels. The microscopic picture (Figure 1) was that of heavy bands of fibrosis intermixed with round cell infiltration. Normal fat was observed in association with the production of young lipoblasts with a foamy granular cytoplasm. The lesion was similar to that observed in traumatic fat necrosis.

The abdomen was closed after appendectomy. Recovery was without incident.

COMMENT

This is a well-documented case of mesenteric panniculitis proved by biopsy. The association with known trauma to the area would lead one to surmise that this was the provoking cause of the lesion. Conservatism in the surgical management of this condition is indicated as most patients will have spontaneous recovery or at least show clinical improvement.

When the patient in the present case was examined three months after operation, the mass had decreased in size and the patient was relatively free of symptoms. A gastrointestinal roentgen study was carried out August 19, 1963, and the radiologist reported: "The stomach remains in a high position but shows less displacement than at the previous examination of May 3, 1963."

Monterey Hospital Ltd., 576 Hartnell Street, Monterey, California (Michael).

REFERENCES

1. Brill, I. C.: Relapsing febrile nodular non-suppurative panniculitis, Baltimore, Waverly Press, Inc., 1936, p. 694.

2. Christian, J. A.: Relapsing febrile nodular nonsuppurative panniculitis, Arch. Intern. Med., 42:338, 1928.

3. Crane, J. T., Aquilar, M. J., and Grimes, O. F.: Isolated lipodystrophy: form of mesenteric tumor, Amer. J. Surg., 169, 1955.

4. Grossman, A., Kaplan, H. J., Preuss, H. J., and Herrington, J. L., Jr.: Mesenteric panniculitis, J.A.M.A., 83:318, 1920.

5. Herrington, J. L., Jr., Edwards, W. H., and Grossman, L. A.: Mesenteric manifestations of Weber-Christian disease, Ann. Surg., 154:949, 1961.

6. Jura, V.: La mesenterite retractile: Caso clinico: Resultanti sperimentali: relieve patogenetici e considerazioni cliniche, Policlinico (Chir), 34:535, 566, 1927.

7. Ogden, W. W., II, Bradburn, D. M., and Rives, J. D.: Panniculitis of the mesentery, Ann. Surg., 151:659, 1960.

8. Rogers, C. E., Demetrakopoulos, N. J., and Hyams, V.: Isolated lipodystrophy affecting the mesentery, the retroperitoneal area and the small intestine, Ann. Surg., 153:277, 1953.

9. Steinberg, B.: Systemic nodular panniculitis, Amer. J. Path., 292:1059, 1953.

10. Tedeschi, C. G., and Botta, G. C.: Retractile mesenteritis, New Eng. J. Med., 266:1035, 1962.

11. Weber, F. P.: Case of relapsing non-suppurative nodular panniculitis showing phagocytosis of subcutaneous fat cells by macrophages, Brit. J. Derm., 37:301, 1920.

Reactions to Intradermal Vaccinations

A Report of Three Cases of Foreign Body Granulomas

H. M. SCHNEIDMAN, *M.D.*, and
J. STEINBERG, *M.D.*, San Francisco

PROPHYLACTIC intradermal vaccination has become increasingly popular in recent years because of the reported decreased incidence of systemic reactions associated with it.[1,5,7] Recently, we observed three instances of local foreign body granulomas, each of at least five months' duration, resulting from this technique.

Two patients received typhoid-paratyphoid A, B inoculations intradermally and one received influenza vaccine intradermally. After the initial local reactions of transient edema, erythema and tenderness, persistent erythematous firm papules appeared at the inoculation sites four to six weeks later. All the patients had had previous intradermal vaccination without untoward sequelae.

REPORTS OF CASES

CASE 1. A 19-year-old white girl received three intradermal typhoid and paratyphoid inoculations in August and September, 1962. The patient was known to have had an accentuated reaction to smallpox vaccine.

Upon physical examination, two firm pink raised papules were noted on the right forearm and one on the left (Figure 1). Biopsy showed foreign body granuloma consisting of homogeneous eosinophilic-staining material, surrounded by lymphocytes, histiocytes and fibroblastic tissues (Figure 1).

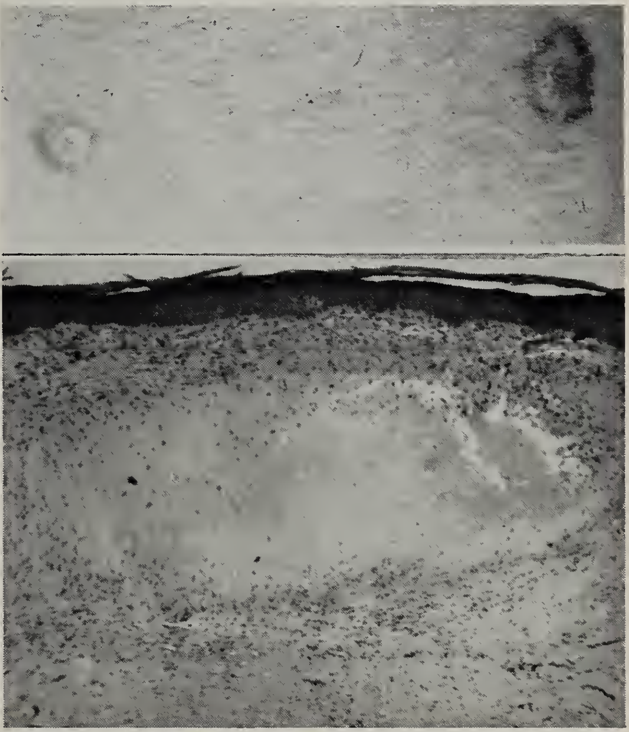

Figure 1.—*Above,* two papules on arm of patient after intradermal typhoid and paratyphoid inoculation. *Below,* photomicrograph of lesion. Note granuloma consisting of central necrotic mass with peripheral lymphocytic and histiocytic infiltrate (× 70).

CASE 2. A 41-year-old white woman received three intracutaneous injections of typhoid and paratyphoid in August and September, 1962. Vaccination with poliomyelitis, typhus and smallpox vaccines had been received previously without sequelae. Upon examination three indurated purple papules were seen at the sites of the typhoid and paratyphoid vaccinations (Figure 2). Biopsy showed the lesions to be foreign body granuloma consisting of central necrotic eosinophilic material surrounded by a mononuclear cell infiltrate, scattered giant cells and fibrous tissue (Figure 2).

CASE 3. A 53-year-old white woman received influenza vaccine intradermally in October and November, 1962. A papule formed at the site of the first injection (Figure 3) but not the second (Figure

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From the Department of Dermatology, Presbyterian Medical Center, San Francisco.

Submitted November 20, 1963.

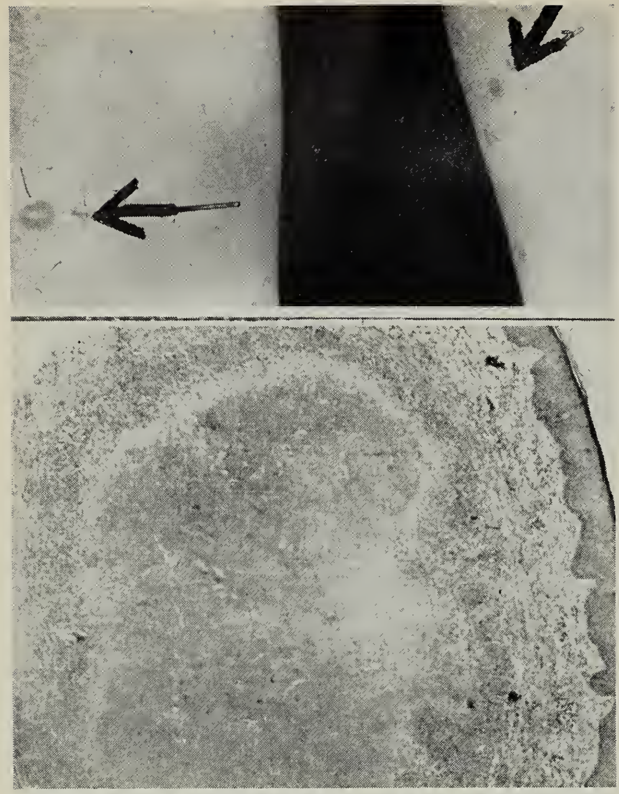

Figure 2.—*Above*, papule on each arm (indicated by arrows) at sites of typhoid and paratyphoid inoculations. *Below*, photomicrograph of lesion. Granuloma consists of central necrotic area with surrounding round cell infiltrate and scattered giant cells (× 70).

3). The patient had previous smallpox and typhoid injections subcutaneously without incident. Biopsy showed the papule to be a foreign body granuloma, similar pathologically to the lesions in the previous two cases (Figure 3).

COMMENT

Local granulomatous tissue reactions to intradermal typhoid vaccine have been reported.[4,10] To the best of our knowledge, this is the first instance of such pathological findings associated with intradermal influenza vaccination. In the three cases here reported, the papules were first noticed four to six weeks after the inoculation and they persisted until excised for biopsy some months later. Delayed chemical abscesses appearing as long as four months after injection,[9] vascular purpura,[8] local reactions to silk contaminants,[2,3] as well as urticaria[6] and anaphylactoid reactions,[4] are documented complications of intradermal inoculation of influenza vaccine. Since no attempt has been made to analyze the vaccines or test the patients involved for sensitivities, the cause of the granulomas remains obscure. Impurities of processing, antigenicity of viral moieties or altered tissue response due to individual peculiarities of antibody formation may be involved.

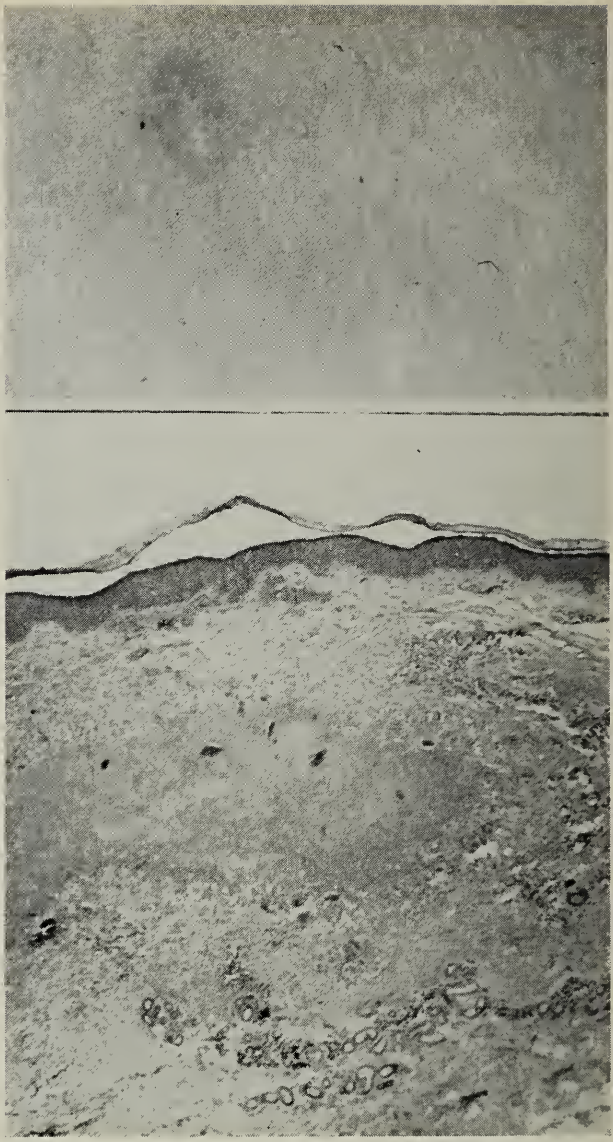

Figure 3.—*Above*, papule at site of inoculation with influenza vaccine. *Below*, photomicrograph of lesion. Note that granuloma produced by influenza vaccine is similar to that produced by typhoid-paratyphoid vaccine (× 70).

SUMMARY

Rarely, local foreign body granulomas at the sites of typhoid and paratyphoid and influenza vaccine intradermal inoculation occur. Three cases are described herein.

350 Post Street, San Francisco, California 94108 (Schneidman).

REFERENCES

1. Barr, M., Sayers, M. H. P., and Stamm, W. P.: Intradermal TABT vaccine for immunization against enteric, Lancet (1) 7077:816-817, April 18, 1959.

2. Brown, S. F., and Coleman, M.: Severe immediate reactions to biologicals caused by silk allergy, J.A.M.A., 165: 2178-80.

3. Friedman, H. J., et al: Severe allergic reaction caused by silk as a contaminant in typhoid-paratyphoid vaccine, J. Allergy, 28:489-493, Nov. 1957.

4. Fries, J. H., and Coleman, M.: Anaphylactoid allergic reactions to influenza and poliomyelitis vaccines, Ann. Allergy, 18, Oct. 1960.

5. Glazier, M. M., Berenson, A. S., and Wheeler, R. E.: Active immunization with influenza virus A and B in infants and children, Pediatrics, 17:482-488, 1956.

6. Griffin, H. E.: Reactions to influenza vaccine, Ann. Allergy, 17 (2):179-87, March-April, 1959.

7. McCanal, J. R., and Kilbourne, E. D.: Immunization with Asian strain influenza: Equivalence of subcutaneous and intradermal routes, New Eng. J. Med., 259:618-621, 1958.

8. Stefanini, M., et al: Acute vascular purpura following immunization with Asiatic influenza vaccine, New Eng. J. Med., 259 (1) : 9-12, July 3, 1958.

9. Stuart-Harris, C. H.: Influenza, epidermic, Current Therapy, p. 20, 1962.

10. Tilden, I. L., and Arnold, H. L., Jr.: Chronic granuloma following intradermal injection of typhoid vaccine, Arch. Path., 36:13-18, July 1943.

Hereditary Nephropathy (Alport's Syndrome)

A Cause of Hematuria in Childhood

JOSEPH G. ELLIS, *M.D.*, Palo Alto, and
SUMNER J. YAFFE, *M.D.*, Buffalo, N.Y.

THE ORIGIN OF AN isolated finding of hematuria in children may be perplexing. After trauma, infection and tumor have been discarded as diagnostic possibilities, the diagnostic label of acute glomerulonephritis may become very attractive. The finding of red blood cells in casts in the urinary sediment makes this diagnosis even more tenable.

Another rare cause that must also be considered is a syndrome characterized by genetic hematuria, often accompanied by nerve deafness. In recent years attention has been focused on several families with this condition. It has been observed that early in life the defect may reveal itself only through the finding of red blood cells and red cell casts in the urinary sediment without other evidence or symptoms of renal or systemic disease. Progression to severe renal disease and to renal failure in middle age or before may occur, and this progression appears to be much more likely in men than in women. Frequently there is concomitant nerve deafness that typically shows itself first with loss of high frequency perception.

The purpose of this report is to draw attention to this entity through the example of a family in which six members of two generations consistently show microscopic hematuria with red cell casts, but have no overt symptoms of renal disease. Several members of the family also have hearing loss.

REPORTS OF CASES

CASE 1. *The propositus.* A 10-year-old white girl was admitted to the Palo Alto-Stanford Hospital Center for the first time on January 18, 1961, because of microscopic hematuria.

Through the latter part of December, 1960, she had complained of mild sore throat, fatigue, nausea and occasional sharp, cramping lower abdominal pain which would last for about one-half hour and then subside after the passage of several loose stools. She had no fever.

On December 23, 1960, while being seen by her private physician, she had sudden lower abdominal pain. Blood and urine examinations on that day showed a normal hemogram but the urinary sediment contained many red cells. There were no symptoms referable to the genitourinary system. An intravenous pyelogram showed no abnormality. Cystoscopy was recommended but was rejected by the patient's mother because of disappearance of the symptoms noted above. On January 8, 1961, the patient again had sore throat, malaise and headache, and was brought to the Stanford Pediatric Outpatient Clinic on January 10, where she was found to be afebrile but to have slight pharyngeal injection. Again it was noted that the urine contained numerous red cells, but no protein or casts. Cystoscopy was now agreed to and the patient was admitted to the hospital on January 18.

No abnormalities of the patient's birth, growth and development were noted. Since the age of three years she had had recurrent attacks of tonsillitis, pharyngitis and otitis media treated with antibiotics. Bilateral myringotomy was done at age five. Slight hearing loss up to 10 decibels had occurred intermittently since. It was improved by use of the politzer bag. There had been no complaints of joint pains or skin rashes. A heart murmur was present since infancy, but had always been interpreted as innocent.

The patient was well developed and did not appear ill. The blood pressure was 115/70 mm of mercury, the pulse rate 104, respirations 22 per minute and temperature 37.5°C. Mild scarring of the tympanic membranes was noted. The anterior tonsillar pillars were injected, the tonsils somewhat enlarged. There was a Grade I blowing systolic murmur along the left sternal border. It did not radiate and it changed with position, being inaudible when the patient was upright. Results of the remainder of the physical examination were within normal limits.

Packed cell volume was 37 per cent of the whole blood. Hemoglobin content was 13.1 gm per 100 ml. Leukocytes numbered 8,400 per cu mm, with normal differential of cells, and the platelet count

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From the Department of Pediatrics, Stanford University School of Medicine, Palo Alto.

Supported in part by a grant from the John A. Hartford Foundation.

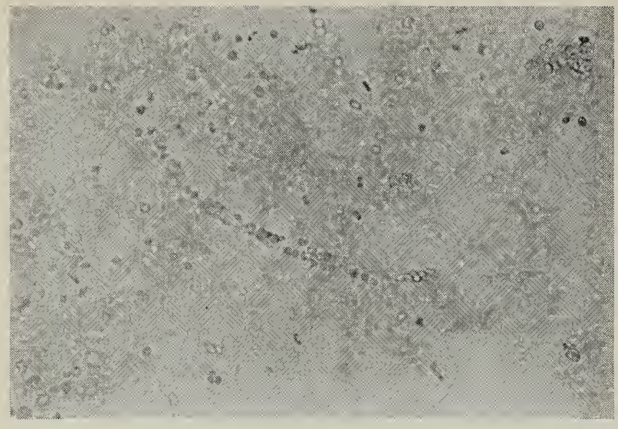

Figure 1.—Centrifuged urine sediment of the proband (Case 1), showing a large number of red blood cells both free and entrapped in a hyaline cast (× 240).

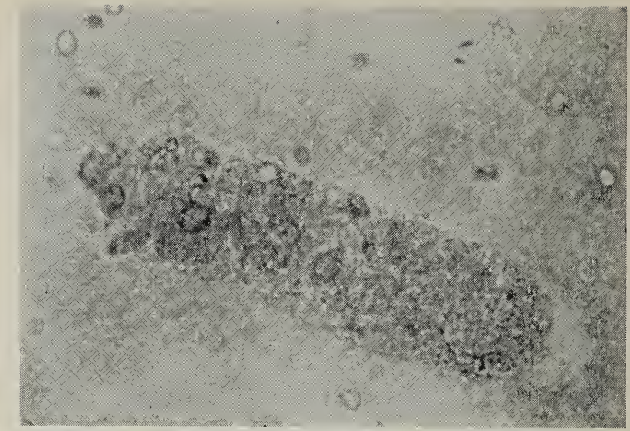

Figure 2.—Centrifuged urine sediment (Case 2) showing a mixed cellular cast on a background of red blood cells (× 750).

was 181,000 per cu mm. A tourniquet test for capillary fragility was negative. Urinalysis on admission showed pH 5.5, specific gravity 1.015, a trace of protein and no sugar. The sediment contained 50 red blood cells per high power field, rare granular and hyaline casts, no bacteria. A urine culture grew 400 colonies of E. coli per ml. Blood urea nitrogen content was 15 mg per 100 ml. Only normal flora grew on a culture of nasopharyngeal secretion. The antistreptolysin titer was 50 Todd units. The result of a tuberculin skin test (purified protein derivative, intermediate strength) was negative. A lupus erythematosus preparation was negative.

The urinary sediment was examined on several occasions and red cell casts were seen each time (Figure 1). In view of this, a diagnosis of acute glomerulonephritis was entertained. Cystoscopy was canceled and the patient was discharged home January 20 with activity restricted. On February 6, 1961, she was seen again in the Pediatric Outpatient Clinic. There was no change in the physical findings. Urinalysis showed microscopic hematuria. A culture of material from the throat showed a moderate growth of beta hemolytic streptococci. The sedimentation rate (corrected Wintrobe) was 17 mm in one hour. The patient was seen at regular intervals over the next 15 months. She remained in good health with no signs of symptoms of renal or other systemic disease. Microscopic hematuria was noted on each outpatient visit.

CASE 2. The 11-year-old brother of the patient in Case 1 was first seen in the Stanford Pediatric Clinic on March 7, 1961, for investigation of red blood cells in the urine.

On January 24, 1961, the patient had come to the Orthopedic Clinic for a minor thumb injury. On routine urinalysis, 15 to 20 red blood cells per high power field and a rare granular cast were noted. There was no protein or bacteria in the urine. The patient had been quite well and was asymptomatic. In the past there had been frequent episodes of tonsillitis, pharyngitis and otitis media. In 1955 hearing loss in the left ear was noted. Myringotomy and frequent use of the politzer bag was followed with slight improvement. Despite this therapy an air conduction loss of 25 decibels had existed since 1958. Tonsillectomy and adenoidectomy were done in 1956. A right inguinal hernia was repaired in 1958.

The patient was lithe and healthy-appearing. The blood pressure was 105/70 mm of mercury, the pulse rate 72 and the temperature 37°C. There were no skin rashes, petechiae or purpura. The left tympanic membrane was decidedly retracted. No other abnormalities were observed on physical examination.

Packed cell volume was 37 per cent of the whole blood. Hemoglobin content was 13.0 gm per 100 ml, and leukocytes numbered 4,800 per cu mm with a normal differential. The sedimentation rate (corrected Wintrobe) was 10 mm in one hour. Blood urea nitrogen was 14 mg per 100 ml. Result of a tourniquet test was negative for capillary fragility. A tuberculin skin test with intermediate strength purified protein derivative was negative. A culture of material from the throat was negative for beta hemolytic streptococci. Urinalysis showed pH 6.5, specific gravity 1.025, no sugar or protein. The sediment contained many red blood cells and there were occasional granular casts and several red blood cell casts (Figure 2). An intravenous pyelogram showed no abnormal features. A urine culture was sterile.

GENEALOGY

Unexplained hematuria had also appeared in other members of this family. Red blood cells were seen in the urine of the father during an insurance physical examination in 1956. Studies done by a urologist including cystoscopy and intravenous pyelograms failed to define the source of the hematuria and the man continued regular work as a painting contractor through the years without other signs of renal disease. An audiogram showed loss of high frequency perception.

The father's sister also gave a history of asymptomatic hematuria which had been investigated by her physician with intravenous pyelograms and urine cultures (including culture for tubercle bacilli). Results of all laboratory investigations were within normal limits. Therapeutic trials of chemotherapeutic agents, on the presumption that the hematuria was due to infection of the urinary tract, had no effect on that symptom. She had slight loss of hearing.

Urine from a perfectly well sister (aged nine) of the propositus was examined. As with the siblings, the urinary sediment contained red blood cells and red cell casts. She also had had many attacks of otitis media, but in her case the audiogram was within normal limits.

Although the propositus had a throat culture positive for beta hemolytic streptococci on two occasions, others of the household had consistently negative throat cultures. Interestingly, a few red blood cells could usually be found in the urinary sediment of the mother, also. In her case an Addis count on one occasion totaled four million erythrocytes per 24 hours. A two-glass test indicated that the blood did not come from vaginal or lower urinary tract bleeding. However, as there were very few casts in the urine, an intrarenal source of this mild hematuria was not established. The mother had no other urinary abnormalities except that her intravenous pyelogram, like that of her youngest daughter, showed evidence for a small intrarenal cyst. There is no known consanguinity. The maternal side is of French-Italian extraction, the paternal side Anglo-Saxon.

The family tree is graphically illustrated in Figure 3. Hematuria and hearing loss have been demonstrated in one of the two paternal aunts. One of the two offspring of this person has been examined and found to be normal. The paternal grandmother is alive at age 81 and without renal disease as evidenced by urinalysis. The paternal grandfather died at age 76 of a cerebrovascular accident with no antecedent history of renal disease. Hematuria has been noted in a paternal cousin who also has moderate hypertension. The other paternal aunt and her issue have been examined by the family physician and hematuria has not been demonstrated.

LABORATORY STUDIES

Intensive investigation of the renal and auditory function of the propositus and her immediate family was carried out (Table 1). The other members of the family have been studied by their private physicians. Personal examination by the authors has been precluded because of the limitations imposed by geographic distance.

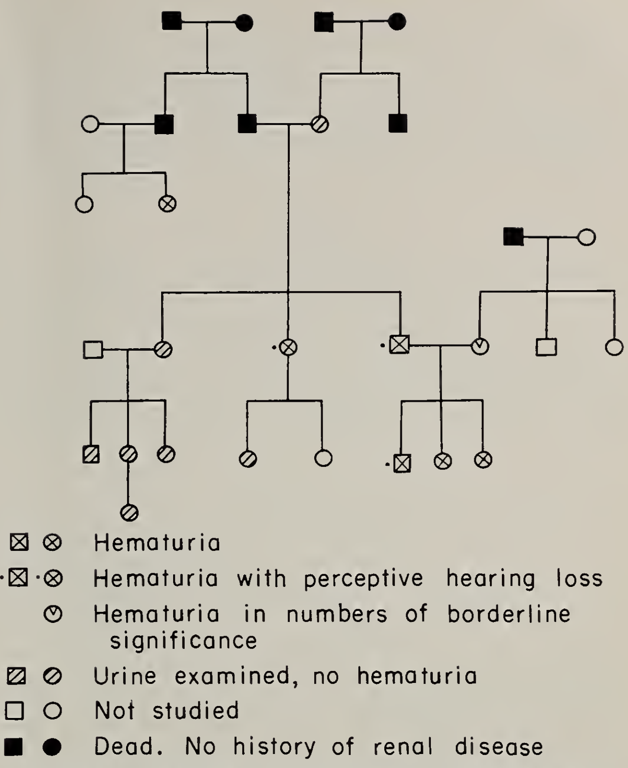
☒ ⊗ Hematuria
·☒ ·⊗ Hematuria with perceptive hearing loss
○ Hematuria in numbers of borderline significance
▨ ⊘ Urine examined, no hematuria
☐ ○ Not studied
■ ● Dead. No history of renal disease

Figure 3.—Pedigree of the family of patients 1 and 2 (lower right hand portion of the diagram).

Glomerular filtration rate as measured by endogenous creatinine clearance was normal in the propositus and in the four members of her immediate family. Microscopic hematuria and a quantitative increase in the daily urinary excretion of red blood cells (as measured by Addis count) has been consistently present in this segment of the family, with the exception of the mother (whose daily red blood cell excretory rate was at the upper limits of normal). The affected persons also excreted a variety of urinary casts ranging from granular to cellular to red blood cell. True blood casts as seen in the acute phase of acute glomerulonenephritis were never found in the urinary sediment. Other features of renal function, such as ability to concentrate and acidify the urine, were within normal limits. Intravenous pyelographic examination suggested the presence of a small intrarenal cyst in the mother and younger sister of the propositus. Twenty-four hour excretion of amino acids was normal both quantitatively and qualitatively by α-amino nitrogen determination and paper chromatography. This examination was performed because of the recent report of hyperprolinemia and increased urinary excretion of glycine, proline, and hydroxyproline in a family with similar clinical findings. Hypertension

TABLE 1.—*Clinical Data Relative to Nephropathy in Members of a Family*

					Urine					
	Age	Sex	Blood Urea Nitrogen mg per 100 ml	Creatinine Clearance ml per min.	Specific Gravity	pH	Red Blood Cells ($x10^6$/24 hr.)	Casts	Intravenous Pyelography	Audiogram
Propositus (Case 1)	10	female	15	67/m²	1.039	5.0	144	granular cellular rbc	normal	normal
Father	47	male	27	131	1.014	6.0	9	hyaline and red blood cell	normal	high frequency loss
Mother	45	female	12	114	1.026	6.0	4	granular	small intrarenal cyst	normal
Sibling (Case 2)	11	male	14	86/m²	1.033	6.0	30	granular and rbc	normal	air conduction loss
Sibling	9	female	15	66/m²	1.027	6.0	9	rbc	small intrarenal cyst	normal

was present in a paternal aunt and cousin, but in no other members of the family. The father and his sister had intensive urologic investigations, including cystoscopy and retrograde pyelography, without defining the origin of the hematuria. Perhaps these manipulative procedures would have been precluded had the family history of hematuria and deafness been known to the examining physician. Both of these persons had a perceptive hearing loss involving higher frequencies. An air conduction loss on the left was present in the brother of the propositus. He also had a perceptive loss as measured by audiometry.

DISCUSSION

In 1902, Guthrie[4] published an account of a family which he believed to be unique in that 12 members in two generations had hematuria. Three of these persons, a mother and her son and daughter, Guthrie cared for personally. He noted they were in good health except that they occasionally excreted a grossly bloody urine (the children had since infancy) and he could invariably find microscopic hematuria and blood casts in the urinary sediment. On these observations he postulated an "idiopathic or congenital, hereditary, and family hematuria" which met the following conditions: "It is hereditary, congenital and familial; hematuria may persist for years, varying in degrees; exacerbations accompany symptoms of influenza, colds, tonsillitis; it is not associated with edema, ascites, or cardio-vascular changes; and the urine is normal in quantity and specific gravity."

By 1912 Hurst[5] had replaced Guthrie in the care of this family and he found that within the previous ten years a number of members had died of nephritis. The male child that Guthrie had described in 1902 had died in 1910 at age 15 of "acute pericarditis." No autopsy was done. This boy was also deaf. Hurst felt it necessary to amend the name of this condition to "hereditary, familial, congenital, hemorrhagic nephritis."

This family came to the attention of Alport[1] in the 1920's when he was called upon to treat several members of the third generation who had nephritis. He was the first to assign importance to the extraordinary incidence of deafness in these people. Of the 15 affected persons in three generations, nine were deaf from childhood. In a few instances in which the deafness was studied, it was shown to be of the perception type. Deafness was so often a companion of nephritis in this family that Alport regarded it as a part of the disease. He was also impressed with the early death of afflicted males and the longevity of afflicted females.

The main features of Alport's clinical description in 1927 persist in recent reports of the disease,[2,3,6-9] a heredo-familial syndrome marked by urinary abnormalities and hearing loss beginning early in life, progressing in the majority of afflicted males to nerve deafness and premature death in uremia. The females may have deafness and signs of renal disease yet live long lives. Within the last decade there has been a surge of interest in this entity sparked by reports of Perkoff in 1951[7] and 1958[6] and Reyersbach and Butler[8] in 1954.

Perkoff's study and that of Reyersbach and Butler are of particular interest as they underscore the variety of the manner in which the nephropathic state may be manifest clinically. The patients of Reyersbach and Butler were children who attracted the attention of their physicians because of apparently benign hematuria with casts and slight proteinuria, often discovered incidentally. A renal biopsy was done on one of these patients at two years of age and only showed blood in the tubules. Perkoff's patients, on the other hand, many times presented at a later age—at least after puberty—with signs and symptoms of acute illness, including fever, flank pain, dysuria, bacteria and pyuria, but scant hematuria. In the initial study two postmortem examinations in that family showed the kidneys involved with interstitial pyelonephritis. However, recent renal biopsies of two affected children, aged 13 and 15, showed blood in the tubules plus "focal thickening in the basement membranes of Bowman's capsule without pericapsular fibrosis." In a postmortem examination on another 43-year-old man in this family, the condition of the kidneys was observed to be compatible with chronic glomerulonephritis. Goldman and Haberfelde[3] also did renal biopsies on several children with hematuria who were part of a family riddled with renal disease and deafness. These biopsies showed "probable endothelial swelling and red cells in adjacent tubules." Another recent report on this entity[9] contains an autopsy description of contracted, atrophic kidneys with scarred, hyalinized glomeruli, epithelial crescents and tubular atrophy. While the biopsies done at an early age are not too helpful in demonstrating pathogenesis, it is thought that in all these cases there is a common pathologic lesion which resembles chronic glomerulonephritis with pyelonephritis sometimes superimposed.

Often, large, pale, fat-laden cells called foam cells have been seen at postmortem in the kidneys of afflicted members in these families.[2,3,7,9] Whalen and coworkers[9] expressed the opinion that while the presence of these cells may suggest this disease entity, they are by no means pathognomonic, since they appear also in cases of chronic glomerulonephritis and different types of pyelonephritis.

The pathogenesis of the deafness remains unknown. Examination of autopsy material in two instances[6,9] has shed no light on the inner ear lesion. Affected patients also have a high incidence of middle ear disease.

The disease appears to be passed on as a dominant gene (probably sex-influenced). Further refinement in the mode of transmission has not been convincingly demonstrated in any of the reported family trees. Usually, more affected offspring come from the maternal side, although transmission from father to son has occurred. But, all investigators have been struck by the early death of males, and this shortness of life could help account for their paucity of affected issue.

SUMMARY

A family is described in which a number of members had hematuria and several of them had hearing deficits. Although none had renal functional impairment, the family probably belongs to the diagnostic category of hereditary nephropathy with deafness, which is briefly discussed. Case reports of two involved children are presented to illustrate the necessity of including this entity in the investigation of hematuria in children.

Department of Pediatrics, Children's Hospital, 219 Bryant Street, Buffalo, New York 14222 (Yaffe).

REFERENCES

1. Alport, A. C.: Hereditary familial congenital hemorrhagic nephritis, Brit. Med. J., 1:504, 1927.

2. Goldbloom, R. B., Fraser, F. C., Waugh, D., Aronovitch, M., and Wigglesworth, F. W.: Hereditary renal disease associated with nerve deafness and ocular lesions, Pediatrics, 20:241, 1957.

3. Goldman, R., and Haberfelde, G. C.: Hereditary nephritis: Report of a kindred, New England J. Med., 261: 734, 1959.

4. Guthrie, L. G.: "Idiopathic" or congenital hereditary and familial hematuria, Lancet, 1:1243, 1902.

5. Hurst, A. F.: Hereditary familial congenital haemorrhagic nephritis, Guy's Hospital Rep., 73:368, 1923.

6. Perkoff, G. T., Nugent, C. A., Jr., Dolowitz, D. A., Stephens, F. E., Carnes, W. H., and Tyler, F. H.: A follow-up study of hereditary chronic nephritis, Arch. Int. Med., 102:733, 1958.

7. Perkoff, G. T., Stephens, F. E., Dolowitz, D. A., and Tyler, F. H.: A clinical study of hereditary interstitial pyelonephritis, Arch. Int. Med., 88:191, 1951.

8. Reyersbach, G. C., and Butler, A. M.: Congenital hereditary hematuria, New England J. Med., 251:377, 1954.

9. Whalen, R. E., Huang, S., Peschel, E., and McIntosh, H. D.: Hereditary nephropathy, deafness and renal foam cells, Am. J. Med., 31:171, 1961.

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EDITORIAL

Another Annual Session

Another annual session of the California Medical Association, the ninety-third in the 108-year history of the organization, was completed with great success late in March.

The expressions of enthusiasm by many who attended were particularly gratifying to those who arranged the scientific portion of the meeting, which this year for the first time came under the direction of the new Scientific Board.

Acting well in advance, the Committee on Scientific Assemblies of the Scientific Board chose the topic of immunology and developed its program for the major part of the session around this theme. Toward this end, it and the officers of the Scientific Sections created a panel of more than a hundred essayists, together with live, closed-circuit color television presentations and medical motion pictures arranged in symposia.

That the scientific meetings, both general and specialist-oriented, were for the most part well accepted was proved each day by full and overflow audiences in many of the meeting rooms that were deemed adequate to measure up to attendance records of past years. The man in the audience could listen to immunology in the language of his own sphere of practice, and he did so in numbers which dictate rearrangement of schedules for meeting rooms in the future.

A carefully selected list of guest speakers, all oriented to the meeting's theme, provided leadership and inspiration for the nearly 3,000 physicians registered and contributed greatly to the overall high level of scientific achievement.

Tied in with the same theme were color television presentations. This medium, which is not always available or capable of being housed, again demonstrated its popularity with overflow audiences of enthusiastic viewers. Medical cases competed with surgical in the TV programs. Audience response in both fields was comparable and physician interest ran high.

Medical motion pictures again attracted large crowds and were, as in the past few years, immeasurably enlivened by the participation of commentators and panel discussants. Here again the presence and the comments of live experts added to the visual presentation and from time to time gave the viewers a more accurate or complete picture than could be captured on film alone. The combination of film and personalities brought the presentation right into the room with a memorable force.

Completing the scientific picture were the technical exhibits, once labeled commercial and more recently called industrial. More than a hundred participating firms filled a large exhibit area with their newest and brightest products and services. Even aircraft were offered for those physicians who fly for professional or personal reasons.

On the legislative side, the House of Delegates ran with all smoothness and efficiency. The decrease in numbers of delegates seemed not to detract at all from the deliberations of the body but did tend to streamline the operations of this policy-making group.

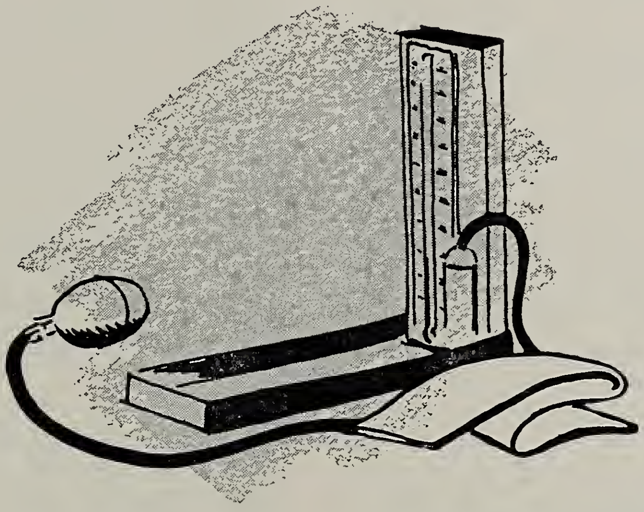
Under the plan of component society representation in the House of Delegates adopted two years ago, this year's group included 252 elected delegates from the component societies, a decrease of 38.5 per cent from the 410 society delegates a year earlier. Added to these 252 were 68 ex-officio delegates, including the officers and members of the Council, the past presidents of the CMA and the 18 members named by the Scientific Board. This membership of 320 proved entirely adequate to carry on the business of the House and more flexible than the larger membership of earlier years.

The size of the Council also became a matter for consideration when the Council announced its appointment of a committee to consider its format.

This committee has projected the probable size of the Council in the next 15 years and has tentatively suggested that the elected district councilors represent a larger membership segment than at present. In addition, a proposed amendment to the constitution would redistrict the state and provide district councilors as representatives of a much larger membership segment than is the case today. No action can be taken on this proposal until the 1965 meeting.

In the annual elections, Doctor Ralph C. Teall of Sacramento, a former councilor from the Tenth District, was chosen as President-Elect (see Page 296). Several changes were noted in the election of district councilors due to retirements and expiration of terms of office. The same held true with the delegates and alternates to the AMA from California.

Taken as a whole, the 1964 annual session must be described as smooth, well planned and organized and of high caliber. The Scientific Board in its initial effort demonstrated its worth as a center for our scientific activities in a group of experts. From this start, we are confident that future annual sessions will live up to the promise generated this year.



California MEDICAL ASSOCIATION

NOTICES & REPORTS

Ralph C. Teall, M.D.
CMA President-Elect

Doctor Ralph C. Teall, the new President-Elect of the California Medical Association, has become increasingly well known to physicians of this state since 1949 when he was elected as a delegate to our House of Delegates. Over the years he has served in a vast array of assignments on numerous House reference committees. He was a member of the CMA Advisory Committee on Revision and Upgrading of Industrial Accident Fee Schedules. From 1954 to 1962 he was Councilor from the Tenth District of the Medical Association, and he was president of the Sacramento Society for Medical Improvement in 1949. At present he is a delegate to the American Medical Association. He has served in his community as director and member of many civic committees.

RALPH C. TEALL, M.D.

Perhaps as good a way as any to measure the man who in another year will be the leader of this Association is to quote a statement which was unanimously adopted by his own Tenth Councilor District to advance his candidacy to the office for which he now has been chosen:

"Throughout California, physicians have come to know Doctor Ralph Teall as an independent, informed and mature observer of the problems of today's medical practice. He seeks and respects the opinions of others on problems as they are presented.

"He is widely known as a friendly, conscientious representative of medicine.

"His outstanding ability to grasp, organize, clarify and present complex medical problems in a concise, forceful and persuasive manner is known to every member of the California Medical Association House of Delegates.

"By reason of his varied training and experience in medical organization and administration (tempered by daily personal experience with problems in the care of the sick and disabled) as well as his personal capabilities in public speaking and in public service, Doctor Teall is singularly qualified to fill

JAMES C. DOYLE, M.D. . . . . President
RALPH C. TEALL, M.D. . . . . President-Elect
WILLIAM F. QUINN, M.D. . . . . Speaker
JOSEPH W. TELFORD, M.D. . . . . . . Vice-Speaker
CARL E. ANDERSON, M.D. . . Chairman of the Council
BURT L. DAVIS, M.D. . . . Vice-Chairman of the Council
MATTHEW N. HOSMER, M.D. . . . . Secretary
DWIGHT L. WILBUR, M.D. . . . . Editor
HOWARD HASSARD . . . . Executive Director
JOHN HUNTON . . . . Executive Secretary
General Office, 693 Sutter Street, San Francisco 94102 • PRospect 6-9400
ED CLANCY . . . . Southern California Office
1515 N. Vermont Avenue, Los Angeles 90027 • 663-8071

the increasingly complex requirements for President-Elect of the California Medical Association."

The man who is thus honored in an utterance by neighbors in his own province, now moves to a larger scene with every prospect that this medical association will be the better for it.

J. E. VAUGHAN, M.D.

Council Meeting Minutes

Tentative Draft: Minutes of the 498th Meeting of the Council, Los Angeles, Statler Hilton Hotel, February 9, 1964.

The meeting was called to order by Chairman Anderson in the Statler Hilton Hotel, Los Angeles, on Sunday, February 9, 1964, at 10:00 a.m.

Roll Call

Present were President Sherman, President-Elect Doyle, Speaker Quinn, Secretary Hosmer and Councilors MacLaggan, Wilson, Todd, Gooel, O'Neill, Bullock, O'Connor, Ham, Rogers, Dalton, Murray, Davis, Miller, Watts, Campbell, Kaiser, Anderson, Dozier, Grunigen and Cosentino. Absent for cause, Vice-Speaker Heron, Editor Wilbur and Councilors Hudson and Shaw.

A quorum present and acting.

Present by invitation were Messrs. Hunton, Thomas, Clancy, Collins, Marvin, Whelan, Klutch, Clark, Tobitt, Bowman and Doctor Miller of CMA staff; Howard Hassard, legal counsel; Messrs. Salisbury, Putnam and Read of the Public Health League; component society executives Scheuber of Alameda-Contra Costa, Rideout of Butte-Glenn, Lingerfelt of Fresno, Baker and Field of Los Angeles, Bannister and Blough of Orange, Colvin of Monterey, Rosenthal of Forty First, Dochterman of Sacramento, Donmyer of San Bernardino, Nute of San Diego, Neick of San Francisco and Brown of Sonoma; Doctor Malcolm Merrill, State Department of Public Health; Doctor Lester McDonald of State Department of Social Welfare; Doctor T. Eric Reynolds and Messrs. Bently and O'Dea of California Physicians' Service; Mr. Bob Garrick, consultant; John Pompelli of the AMA; Mr. Clifton Linville, president of the California Hospital Association; Doctors Osman Hull of Monterey County, John Bullis of Los Angeles, Merlin A. Hendrickson of San Bernardino, Morgan Boyers of Sacramento, Albert Warrens of Butte-Glenn, Leon Desimone, Packard Thurber, Jr., Dan O. Kilroy, Harold Kay and others.

1. *Minutes for Approval*

Minutes of the 497th Council meeting, held January 4, 1964, were presented.

ACTION: Minutes approved as presented.

2. *Membership*

(a) A report of membership as of February 6, 1964, was presented and ordered filed.

(b) On nominations duly made by their component societies, 17 members were elected to Associate Membership. These were: Doss O. Lynn, Francis A. Munson, Josephine Russo, William T. Smith, Alameda-Contra Costa; Joan Louise Pirl, Fresno County; Harold Cedric Alward, Benjamin H. Barbour, J. Edward Berk, Eileen LaVerne Carter, Richard E. Horowitz, Constantine Tom Kunelis, Stanley T. Lee, Elizabeth A. Pool, Los Angeles County; Waldo S. Cook, Mendocino-Lake County; Kenneth Dole, Napa County; Loretta A. Helle, San Diego County; Frank Vieira, San Joaquin County.

(c) On nominations duly made by their component societies, 24 members were elected to Retired Membership. These were: Moyne W. Lichlyter, Butte-Glenn County; Austin Oliver Sanden, Kern County; W. Drew Chipman, Robert H. Fagan, Leo W. Fate, W. Arden Fate, Norval W. Haddow, Ada Lingo Hatcher, Maria A. Herz, Philip Hoffman, George Mattison, Charles F. Nelson, Esther Serida Nelson, Erich Reinard, Eric A. Royston, Charles Salisbury, E. Richmond Ware, Los Angeles County; John L. Gallagher, Otto A. Houzvika, Rufus A. Schneiders, San Diego County; Frederick C. Cordes, Alma Pennington, San Francisco County; Sidney Baldwin Bellinger, Milton Premo, Santa Clara County.

(d) On nominations duly made by their component societies, 25 members were granted reductions of dues for reasons of prolonged illness or postgraduate study.

3. *Reports of Officers*

PRESIDENT: President Sherman reported on his recent activities, including attendance at the meeting of the Medical Care Advisory Committee of the State Department of Social Welfare, at which he presented the Council's recommendations for administration of the MAA program . . . reported Assembly Bill 59 of the 1962 Legislature has drawn numerous objections and may be revised or rescinded this year . . . testimony given before the Senate Fact Finding Committee on Welfare and Labor . . . attendance at meeting of State Department of Mental Hygiene, where Doctor James Lowry was announced as newly appointed director of the department . . . testimony given before the House Ways and Means Committee in opposition to HR 3920 in the present Congress . . . reports on several items of federal legislation

. . . report on review of situation on HR 3920 . . . planned meeting in Portland on mental hygiene matters.

ACTION: Voted to authorize Doctor Sherman to attend Portland meeting. The Council applauded Doctor Sherman for his tireless efforts in behalf of CMA.

4. *Committee on Occupational Health*

Doctor Packard Thurber, Jr. presented Doctor Richard Young of the State Department of Rehabilitation. Doctor Young reviewed the establishment of the department, which took over rehabilitation programs from the Department of Education and outlined its areas of responsibilities. In the last fiscal year, he reported, some 37,000 applications were received for rehabilitation services. Of these, 7,889 were accepted for treatment and during the year 2,738 persons were released following treatment and other services.

5. *Sacramento Medical Society*

Discussion was held on problems encountered by the Sacramento Medical Society in cooperating with the medical care plan of a large industrial employer.

ACTION: Voted to request California Physicians' Service to lend all possible assistance to the society in dealing with this problem.

6. *California Hospital Association*

Clifton H. Linville, president, reported on his appearance before the House Ways and Means Committee and commended Doctor Sherman for his excellent presentation.

7. *Committee on Committees*

REPORT: Doctor Doyle presented a list of recommended nominees for appointment to vacancies which will occur on commissions and committees. Included were recommendations on the change of name of two committees, which will require adoption of Bylaw amendments.

ACTION: List approved as amended for presentation to House of Delegates.

ACTION: Bylaw amendments to change names of two committees approved for introduction into House of Delegates.

8. *Liaison Committee to CPS*

REPORT: (a) Resolution 21-63 suggested that CPS recognize claims forms other than its own which contained sufficient data for processing. Report shows that CPS is recognizing such forms already but that increasing use of electronic data processing may require more adequate information data.

ACTION: This section APPROVED.

(b) CPS experimental approach reported, whereby employees in group with incomes above $7,500 will have professional services paid on "usual and customary fee" basis and those below $7,500 income level will receive benefits at the "D" schedule level.

ACTION: APPROVED rapid development of this concept, consistent with sound business management.

ACTION: APPROVED CPS move in this direction in Santa Clara County as aid in solving unique problem in that area.

(c) Development of E and F Schedules results in some instances in fee payments above those charged private patients for same service. Committee suggests payments be made on the lower of schedule or usual fee.

ACTION: APPROVED.

ACTION: Entire report APPROVED.

9. *Ad Hoc Committee on Radiology*

REPORT: Chairman Davis gave committee report, which recommended approval of pilot studies in Kern and San Mateo Counties to determine the radiologic diagnostic qualities of x-ray films for which CPS is billed. A radiologist from outside these areas would review films taken in offices of a selected sampling of physicians. Cost estimated at $3,000 with California Radiological Society to participate on equal share basis.

ACTION: Study as outlined authorized, Finance Committee to review costs involved.

10. *Commission on Community Health Services*

REPORT: Doctor Harold Kay, chairman, reported on several items:

(a) *Clinical laboratories:* Report covering performance of laboratory services and billing by attending physicians, covering services performed in the physician's office or in laboratories serving the patient at his request and outlining recommended procedures. Report proposed that attending physician, if including in his statement charges for laboratory services, show such charges as separate items.

ACTION: APPROVED by Council.

(b) *Epidemiology of traffic accidents:* Report recommended that CMA urge the Governor to encourage various state agencies in study of the underlying causes, in human terms, of traffic accidents. Study would show physical, emotional and similar states of drivers involved in accidents.

ACTION: Commission authorized to proceed.

(c) *Good Samaritan Law:* Statement of interpretation of law in terms of participants in disaster or other test procedures. Some members have questioned applicability of law and its coverage when physicians are engaged in volunteer activities of a civic nature.

Action: Statement approved and referred to Bureau on Communications for dissemination.

(d) *Resolution 86-62, covering reporting of epilepsy:* Report recommends that since intent of author of resolution was to place responsibility for reporting epilepsy, i.e., in applications for drivers' licenses, no further implementation is required. Discussion brought out fact that many other physical conditions might subject drivers to periods of insensibility.

Action: Intent of report approved and subject referred back to commission for further study.

(e) *Resolutions 5-63 and 74-63, covering physical screening procedures and immunization clinics by other agencies and their recognition by medical societies:* Commission presented a series of guides for the use of societies in evaluating proposed programs and determining participation by society or its members.

Action: Recommendations and guides approved.

(f) *Resolution 33-63, covering courses for ambulance drivers:* Commission studying such courses and planning regional conferences for training of drivers and stewards, subject to Council approval.

Action: Program as outlined approved.

(g) AMA medical identification cards: Commission urged that persons with medical problems carry such cards or similar information devices, that such devices be widespread and that physicians urge their use.

Action: Approved and Bureau on Communications asked to assist in assuring widespread distribution.

11. *Commission on Public Agencies*

Report: Doctor James MacLaggan, chairman, reported on several items, including:

(a) *Vaccination assistance act:* Report made that State Department of Public Health hoped to make a motivational study of those who have failed to secure immunization against preventable diseases. Federal funds are available but state finance department has questioned expenditure under public health budget.

Action: Voted to reaffirm earlier position that immunization is desirable for all, that CMA lend assistance to public health department in maintaining its budget item for motivational studies and that the legislative committee provide such aid as it can.

(b) *Medical Care Studies Unit of Department of Public Health:* Commission recommended that CMA endorse a study of chiropractic and its uses as a top priority item in program of this unit.

Action: Recommendation approved.

Action: Recommendation that commission make study of chiropractic in depth was tabled.

(c) *Unused drug supplies:* Warning statement presented advising need for disposing of unused drug supplies and equipment in manner to prevent these items falling into hands of children or addicts.

Action: Statement approved.

(d) Recommended that entire state be declared rabies area rather than have such declarations emanate from geographical areas.

Action: Referred back to commission for further study and consultation with State Department of Public Health.

(e) *Ionizing radiation:* Commission asked authority to seek consultation from dentists and veterinary physicians in study of ionizing radiation.

Action: Authority voted.

(f) *Liaison committee to State Department of Finance:* Commission recommended this committee, now disbanded, be reactivated.

Action: Voted to reestablish committee following 1964 Annual Session.

(g) *Liaison committee to State Department of Social Welfare:* Commission recommended this committee be reestablished.

Action: Voted to consider appointing Council liaison committee with the state Health and Welfare Agency following 1964 Annual Session.

(h) *Reconsideration of prior decision on presence of fathers in delivery rooms:* Motion to reconsider was voted. Motion that Council reaffirm earlier action lost for want of a second. Doctor Merrill reported that Attorney General has been asked for an opinion to clarify present situation; such opinion is expected in time for action on this subject in the early fall. Until that time there will be no change in the existing regulations.

Action: Voted to refer to Committee on Maternal and Infant Mortality for further study and report.

12. *State Table of Maximum Allowances*

Report: Several letters of criticism have been received, pointing out that state authorities have departed from some aspects of the Relative Value Studies in arriving at their current table of maximum allowances and attacking CMA for alleged participation in such deviations. A letter from Mr. Hassard to members of the Council was read; this expressed the position of CMA in not having sponsored or approved promulgation of this table beyond its original request that Relative Value Studies be used as base and its frequent statements that the State's conversion factors are not adequate.

Action: Voted that Mr. Hassard's letter be widely publicized.

Action: Voted to urge officers and staff to meet with the Governor, the Director of Finance, Director of Health and Welfare and Director of Social Welfare to secure action on reducing the 30-day hospital prerequisite for MAA eligibility to 21 days, to secure a policy that private hospitals shall be paid for MAA cases as under other state proprams and to secure policy that an MAA recipient who has fulfilled the waiting period shall be considered eligible for services for a period of one year.

13. *Scientific Board*

(a) Recommended that two physiatrists be appointed as members of the Editorial Board.

Action: Recommendation approved, nominations to come from the Committee on California Medicine.

(b) *Cancer Advisory Council:* Recommended that resolution be introduced by Council in House of Delegates to urge that the life of the Cancer Advisory Council, now scheduled to expire at the end of 1965, be extended and that certain amendments to make the law more effective and more easily enforceable be supported.

Action: Introduction of resolution approved and Committee on Legislation requested to support proposed amendments to law.

(c) *Requests for library contributions:* Executive Committee of Scientific Board presented a report to the effect that medical libraries performed a valuable service in making books and periodicals available to physicians but that board's jurisdiction was not considered to be determinative of CMA policy in subsidizing such libraries.

Action: Report approved and further requests for subsidization of medical libraries to be referred to Scientific Board for recommendation as to CMA's role in subsidization of libraries.

14. *Resolutions for House of Delegates*

Report: The chairman presented a series of resolutions, augmented by others from Council members, for consideration for presentation to the House of Delegates.

Action: Approval voted for introduction of resolutions into House of Delegates on the following subjects:

1. Prepayment for after-retirement medical care insurance.
2. Medical care for everyone.
3. Liaison with labor organizations.
4. Bylaw amendment on committee name.
5. Changes in Rattigan Act.

15. *Vote on Council*

Doctor Dozier proposed that the staff be instructed to draw up an amendment to the Constitution to provide that the representative of the Scientific Board on the Council be permitted to vote in Council meetings.

Action: Voted that proposal be referred to the ad hoc committee on Council procedures and format.

16. *Council Meeting Dates*

A proposed schedule of meeting dates was presented and dates voted as follows: March 20, 1964—4 p.m.—Los Angeles; March 21-25, 1964—Los Angeles; May 2, 1964—San Francisco; June 13, 1964—Los Angeles; August 8, 1964—San Francisco; September 19, 1964—Los Angeles.

17. *Individual Responsibility Plan*

A communication from a member, asking assistance in promoting the application of the Individual Responsibility Plan was discussed. No action taken.

18. *Finance Committee*

(a) Chairman Davis presented a financial report for the first six months of the fiscal year. Report ordered filed.

(b) Doctor Davis reported that a request for funds to help establish a community blood bank in Monterey County had, because of local conditions, been withdrawn temporarily. Request was referred to Finance Committee by the Council.

19. *Bureau of Research and Planning*

Doctor Davis reported that studies had been completed on the usual and customary charges made by physicians for a selected list of 30 procedures, in accordance with resolution No. 91-63 of the House of Delegates. Results of these studies, on a county basis, are now available to component societies requesting them for their own areas.

Action: Approved release of median fees and coefficients on request to component societies for their own areas.

20. *Report of Speaker*

Speaker Quinn reported receipt of a letter from Attorney General Mosk, thanking him for his services in assisting a committee studying dangerous drugs and narcotics.

Action: Voted to thank Attorney General and assure him of continued cooperation.

21. *Liaison Committee to California Hospital Association*

Report: Chairman MacLaggan reported that nine hospitals in San Bernardino County had been surveyed under the Guiding Principles and that hospitals in Orange County would be surveyed in the near future.

22. *Ad Hoc Committee on Council Format*

Report: Chairman Dalton presented a written report for the committee, including recommendations, and asked that it be studied and voted on at a later meeting.

23. *Ad Hoc Committee on Future Role of County Hospitals*

Report: Chairman Miller presented a report for the committee and asked that it be approved.

Action: Voted approval and Council introduction into the House of Delegates.

24. *Commission on Medical Services*

Report: Doctor Miller reported on a meeting with insurance industry representatives at which the progress of the "Western 65" insurance program for the aging was reported and discussed.

25. *Bureau on Communications*

Report: Doctor Todd presented a report for the bureau, including progress reports on (1) medical assistants, (2) smoking education, (3) medicine and religion, (4) the "World of Medicine" series of cartoons, radio scripts and television spots, (5) the "Doctors at Work" television series and (6) the distribution of printed material.

26. *Legal Department*

Report: Mr. Hassard reported on the status of the Keogh retirement program sponsored by the Association and replied to questions about it. He predicted that during 1964, at quarterly or longer intervals, more participants may be expected to take part in the program.

Adjournment

There being no further business to come before it, the meeting was adjourned at 4:55 p.m.

Carl E. Anderson, M.D., *Chairman*
Matthew N. Hosmer, M.D., *Secretary*

In Memoriam

Amaral, Edward A., San Jose. Died February 23, 1964, in San Jose, aged 68, of cerebral thrombosis. Graduate of St. Louis University School of Medicine, Missouri, 1925. Licensed in California in 1926. Doctor Amaral was a member of the Santa Clara County Medical Society.

✤

Birnberg, Tobias L., Beverly Hills. Died February 14, 1964, in Los Angeles, aged 80, of carcinoma. Graduate of the University of Minnesota Medical School, Minneapolis, 1904. Licensed in California in 1944. Doctor Birnberg was a member of the Los Angeles County Medical Association.

✤

Bonura, Francesco, Los Angeles. Died March 9, 1964, in Los Angeles, aged 77, of cerebral vascular accident. Graduate of Regia Universita degli Studi di Palermo; Facolta di Medicina e Chirurgia, Italy, 1913. Licensed in California in 1921. Doctor Bonura was a member of the Los Angeles County Medical Association.

✤

Chudnoff, Jack S., Los Angeles. Died February 18, 1964, in Culver City, aged 46. Graduate of the University of Wisconsin Medical School, Madison, 1940. Licensed in California in 1946. Doctor Chudnoff was a member of the Los Angeles County Medical Association.

✤

Eastman, Verne E., Long Beach. Died January 24, 1964, in Long Beach, aged 74, of bronchial pneumonia, myasthenia gravis. Graduate of Rush Medical College, Chicago, Illinois, 1921. Licensed in California in 1944. Doctor Eastman was a retired member of the Los Angeles County Medical Association and the California Medical Association, and an associate member of the American Medical Association.

✤

Fixler, Alan, San Francisco. Died March 7, 1964, in a boating accident, aged 38. Graduate of the University of California School of Medicine, Berkeley-San Francisco, 1951. Licensed in California in 1951. Doctor Fixler was a member of the San Francisco Medical Society.

✤

Forsythe, James Steele, San Bernardino. Died February 19, 1964, in San Bernardino, aged 82. Graduate of George Washington University School of Medicine, Washington, D.C., 1906. Licensed in California in 1918. Doctor Forsythe was a retired member of the San Bernardino County Medical Society and the California Medical Association, and an associate member of the American Medical Association.

✤

Gustafson, Lucille McConnell, Long Beach. Died February 28, 1964, in Long Beach, aged 64, of carcinoma. Graduate of Rush Medical College, Chicago, Illinois, 1923. Licensed in California in 1927. Doctor Gustafson was a retired member of the Los Angeles County Medical Association and the California Medical Association, and an associate member of the American Medical Association.

HARBECK, CHARLES JOHN, Los Angeles. Died November 1, 1963, aged 86, of obstruction of large intestine due to diverticulitis with fibrosis and congestive heart failure. Graduate of Columbia University College of Physicians and Surgeons, New York, N.Y., 1905. Licensed in California in 1916. Doctor Harbeck was a retired member of the Los Angeles County Medical Association and the California Medical Association, and an associate member of the American Medical Association.

✤

HARE, HEROLD P., Los Angeles. Died February 11, 1964, in Los Angeles, aged 75, of arteriosclerotic heart disease. Graduate of the University of California School of Medicine, Berkeley-San Francisco, 1916. Licensed in California in 1916. Doctor Hare was a retired member of the Los Angeles County Medical Association and the California Medical Association, and an associate member of the American Medical Association.

✤

HUMPHREY, WENDELL HOLMES, Oakland. Died February 20, 1964, in Oakland, aged 63, of cardiac failure due to coronary arteriosclerosis. Graduate of the College of Medical Evangelists, Loma Linda-Los Angeles, 1927. Licensed in California in 1927. Doctor Humphrey was a member of the Alameda-Contra Costa Medical Association.

✤

JOHNSON, LIONEL W., Vallejo. Died February 26, 1964, in Vallejo, aged 61, of coronary disease, with acute myocardial infarction. Graduate of the State University of Iowa College of Medicine, Iowa City, 1929. Licensed in California in 1948. Doctor Johnson was a member of the Solano County Medical Society.

✤

KINNEY, MILA A. JACKSON, Northridge. Died February 14, 1964, in Van Nuys, aged 82. Graduate of the Woman's Medical College of Pennsylvania, Philadelphia, 1910. Licensed in California in 1911. Doctor Kinney was a retired member of the Los Angeles County Medical Association and the California Medical Association, and an associate member of the American Medical Association.

McEVERS, ALBERT E., Palm Desert. Died March 1, 1964, in Los Angeles, aged 77, of arteriosclerosis obliterans. Graduate of the Chicago College of Medicine and Surgery, Illinois, 1912. Licensed in California in 1927. Doctor McEvers was a member of the Los Angeles County Medical Association.

✤

POUPPIRT, (SOMERS) PEARL S., San Francisco. Died February 10, 1964, in Kentfield, aged 64. Graduate of Stanford University School of Medicine, Palo Alto-San Francisco, 1926. Licensed in California in 1926. Doctor Pouppirt was a member of the San Francisco Medical Society.

✤

QUINN, WILLIAM ELLARD, Covina. Died February 22, 1964, in West Covina, aged 43, of burns received from a fire in his home. Graduate of the University of Southern California School of Medicine, 1946. Licensed in California in 1946. Doctor Quinn was a member of the Los Angeles County Medical Association.

✤

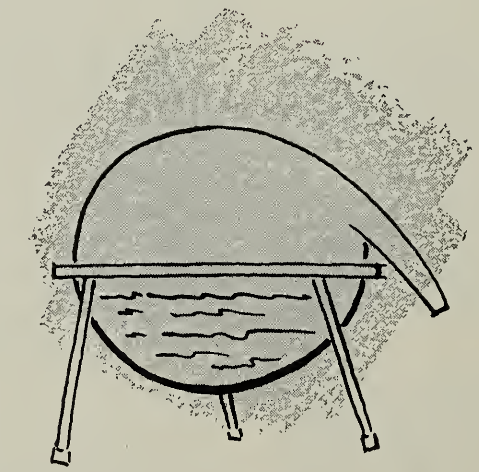
REDELINGS, LESLIE HALL, San Diego. Died February 14, 1964, in San Diego, aged 75, of heart disease. Graduate of Johns Hopkins University School of Medicine, Baltimore, Maryland, 1914. Licensed in California in 1920. Doctor Redelings was a retired member of the San Diego County Medical Society and the California Medical Association, and an associate member of the American Medical Association.

✤

RIGA, G. ROBERT, San Francisco. Died February 28, 1964, aged 57, of heart disease. Graduate of the University of California School of Medicine, Berkeley-San Francisco, 1938. Licensed in California in 1938. Doctor Riga was a member of the San Francisco Medical Society.

✤

RUNNER, JAMES FLOYD, San Francisco. Died March 2, 1964, in San Francisco, aged 74. Graduate of the University of Michigan Medical School, Ann Arbor, 1917. Licensed in California in 1919. Doctor Runner was a retired member of the San Francisco Medical Society and the California Medical Association, and an associate member of the American Medical Association.



Clinical Laboratories

A Statement By the Commission on Community Health Services of the California Medical Association

In the spring of 1963, the Council of the CMA asked the Commission on Community Health Services to study the matter of clinical laboratories. Since that time, several meetings have been held with representatives of the California State Department of Public Health, California Society of Pathologists, California Society of Internal Medicine, and California Association of Clinical Laboratories.

I GUIDES FOR ETHICAL CONDUCT

The Commission feels that with the full cooperation of those concerned, a program can be maintained in California, obviating the need for legislation to enforce rules which basically call for ethical conduct. The medical profession has guides for the development of such a program in the "Opinions and Reports of the Judicial Council of the American Medical Association," dated 1960. The tenets of this document, subscribed to by all medical societies in the United States, basically point out that the practice of an unearned addition to a fee for a laboratory test is not ethical, and further suggest that direct billing by all who render service is the most desirable method.

The first recommendation of the Commission is that medical societies thoroughly review the aforementioned document, that such a review be held in a regular meeting of the medical societies for all members and that these recommendations be published in all medical society bulletins.

II BILLING

It is recommended that all laboratory work be billed directly to the patient by the laboratory doing the tests, and if this is not possible, that the statement from the physician on which the costs of laboratory work is reflected be itemized so that the patient knows the amount the physician paid and what the patient is, in turn, being charged for each laboratory test.

A contractual agreement between the laboratory and the physician is not in the best interests of the patient. The absence of a contract will eliminate the possibility of a conflict of interest for the physician. Additionally, such an agreement makes it difficult, if not impossible, to conform to the principles of direct billing, since a true cost cannot be determined for a specific test under a contract which allows a sliding scale of fees depending on the volume of tests performed.

No physician should be denied a reasonable fee for obtaining a specimen for testing purposes and/or interpreting the results of the test, but this should be itemized separately and appear on the physician's statement.

III CLINICAL LABORATORIES

It is recognized that clinical laboratories both in and out of California perform tests for California patients. It is the feeling of the Commission that adequate supervision by competently trained individuals is necessary in every laboratory.

The best interests of the patient are uppermost in the physician's mind, therefore, the laboratories best equipped, both with personnel and equipment, should be used to perform the tests needed. The necessity for the highest quality of work in performing laboratory tests is without question. It is the feeling of the Commission that all physicians should assure themselves that the tests being performed for their patients meet the highest standards. By education of the medical profession and other disciplines involved, it is felt that any laboratories now doing substandard work, would be forced to meet the demands of the public by providing higher quality work.

IV LABORATORIES IN PHYSICIANS' OFFICES

The Commission recognizes that certain physicians maintain laboratories in their offices for the convenience of their patients. This statement in no way reflects negatively on this practice. These laboratories should maintain the same high quality of performance and the recommendations on billing are applicable.

V EDUCATION

It is the recommendation of this Commission that all disciplines concerned with this matter establish a program of education of its members regarding an ethical program based on the tenets of the 1960 edition of the "Opinions and Reports of the Judicial Council of the American Medical Association," which interprets in detail the "Principles of Medical Ethics of the AMA." Such a program should include suggested methods of direct billing and procedures or methods to be employed by physicians and laboratories that will ensure high standards of care for the California patient.

VI CONCLUSION

Specifically, as applied to the practice of medicine as a whole, all rules of conduct should apply equally.

The Commission recommends that the Council and House of Delegates of the California Medical Association promulgate, for all physicians, these principles:

A. Each physician conducting a medical practice should directly bill only for services performed by him or his regularly employed assistants.

B. All laboratory work should be billed directly to the patient by the laboratory performing the tests.

C. Whenever a physician purchases specific services or commodities for a particular patient from a source outside of his office, the physician must itemize any charge to the patient for such service or commodity.

Approved by the Council, February 9, 1964.

NORTH COAST COUNTIES

Presented cooperatively by North Coast Counties Medical Societies, Continuing Education in Medicine and Health Sciences, University of California School of Medicine, Los Angeles and the Committee on Continuing Medical Education, California Medical Association. A 12-hour course.

HOST: Mendocino-Lake County Medical Society. **Regional Chairman:** Patrick R. Allanson, M.D., 728 South State Street, Ukiah.

INSTITUTE FEE: $15.00. For additional information contact Continuing Medical Education office, California Medical Association, 693 Sutter Street, San Francisco 94102. All California Medical Association members and their families are cordially invited to attend.

14th ANNUAL regional postgraduate institute

BROOKTRAILS Willits

April 23-24, 1964

THE KIDNEY: ANATOMY, PHYSIOLOGY AND DISEASE

THURSDAY, APRIL 23

8:15—**Registration**

Morning Session

Presiding: Alvin W. Folkenberg, M.D., Ukiah

9:00-9:20—**Gross Anatomy of the Urogenital Tract and Its Blood Supply**—Joseph J. Kaufman, M.D.

9:20-9:40—**Microscopic Anatomy of the Kidney**—Harrison Latta, M.D.

9:40-10:00—**Elements of Renal Function: Renal Blood Flow, Filtration Rate, Reabsorption, and Secretion**—Morton H. Maxwell, M.D.

10:00-10:20—**Renal Regulation of Nonprotein Nitrogens**—Ralph Goldman, M.D.

10:20-10:40—INTERMISSION

10:40-11:00—**Clinical Examination of the Urinary Sediment**—Ralph Goldman, M.D.

11:00-11:20—**Renal Regulation of Sodium and Potassium**—Milton E. Rubini, M.D.

11:20-11:40—**Renal Regulation of Water**—Stanley Franklin, M.D.

11:40-12:15—**Renal Regulation of Acid Base Balance**—Harvey C. Gonick, M.D.

Afternoon Session

Presiding: Thomas A. Nicholson, M.D., Ukiah

2:00-2:30—**Renal Radiography**—Joseph J. Kaufman, M.D.

2:30-3:00—**Renal Biopsy**—Harrison Latta, M.D.

3:00-3:45—**Clinical Tests of Renal Function**—*Panel Discussion*—Ralph Goldman, M.D., Joseph J. Kaufman, M.D., Morton H. Maxwell, M.D.

3:45-4:00—INTERMISSION

4:00-4:45—**Simultaneous Work Shops:** (you may go to one of your choice):

A. **Potassium**—Milton E. Rubini, M.D.
B. **Sodium**—Stanley Franklin, M.D.
C. **Acid Base Metabolism**—Harvey C. Gonick, M.D.
D. **The Patient Interview**—Arthur Clinco, M.D.

FRIDAY, APRIL 24

Morning Session

Presiding: J. Roy Wittwer, M.D., Eureka

9:00-9:30—**Hypo- and Hypernatremia**—Harvey C. Gonick, M.D.

9:30-9:50—**Hypo- and Hypercalcemia**—Milton E. Rubini, M.D.

9:50-10:20—**Chronic Renal Failure**—Ralph Goldman, M.D.

10:20-10:35—INTERMISSION

10:35-11:00—**Acute Renal Failure**—Morton H. Maxwell, M.D.

11:00-12:00—**Simultaneous Work Shops:** (you may go to one of your choice):

A. **Potassium**—Milton E. Rubini, M.D.
B. **Sodium**—Stanley Franklin, M.D.
C. **Acid Base Metabolism**—Harvey C. Gonick, M.D.

Afternoon Session

Presiding: Richard C. Barnett, M.D., Sebastopol

2:00-2:30—**Edematous States: Actions and Uses of Diuretics**—Stanley Franklin, M.D.

2:30-3:00—**Renovascular Hypertension**—Joseph J. Kaufman, M.D.

3:00-3:20—**Present Status of Chronic Dialysis**—Milton E. Rubini, M.D.

3:20-3:40—INTERMISSION

3:40-4:00—**Present Status of Kidney Transplantation**—Ralph Goldman, M.D.

4:00-4:45—**Kidney Stones**—*Panel Discussion*—Harvey C. Gonick, M.D., Joseph J. Kaufman, M.D., Morton H. Maxwell, M.D.

4:00-4:45—Concurrent Elective—**The Patient Interview**—Arthur Clinco, M.D.

SAN JOAQUIN VALLEY COUNTIES

Presented cooperatively by San Joaquin Valley Counties Medical Societies, Loma Linda University School of Medicine and California Medical Association Committee on Continuing Medical Education. An 11½-hour course.

HOST: Fresno County Medical Society. *Regional Chairman:* Leo Goodman, M.D., 1341 Wishon Avenue, Fresno.

INSTITUTE FEE: $15.00. For additional information contact the Committee on Continuing Medical Education, California Medical Association, 693 Sutter Street, San Francisco 94102. All California Medical Association members and their families are cordially invited to attend.

14th ANNUAL regional postgraduate institute

Ahwahnee Hotel

Yosemite National Park

May 7-8, 1964

PROGRAM: GASTROENTEROLOGY

THURSDAY, MAY 7

8:15—**Registration**

Morning Session

Presiding: Leo Goodman, M.D., Fresno

9:00-9:30—**Film**

9:30-10:15—**Gastric Cooling and Freezing for Manifestations of Peptic Ulcer**—Owen H. Wangensteen, M.D.

10:15-10:30—Intermission

10:30-11:15—**Psychosomatic Implications of Gastroenterology**—Norman Shrifter, M.D.

11:15-12:30—CONCURRENT SESSIONS (you may go to one of your choice):

A. **Malabsorption Syndrome**—Sam Ross, M.D., Moderator. J. Edward Berk, M.D., Norman Shrifter, M.D., Alfred A. Torre, M.D.

B. **Esophagitis and Hiatus Hernia**—Byron Evans, M.D., Moderator. Olov Blomquist, M.D., David B. Hinshaw, M.D., Robert Potter, M.D.

C. **Intestinal Obstruction**—Howard Corbus, M.D., Moderator. Thomas Heckel, M.D., Walter L. Stilson, M.D., Owen H. Wangensteen, M.D., Morton M. Woolley, M.D.

Afternoon Session

Presiding: C. H. Covington, M.D., Selma

2:30-3:15—**Cinefluoroscopy**—Walter L. Stilson, M.D.

3:15-4:00—**Dumping Syndrome**—David B. Hinshaw, M.D.

4:00-4:15—Intermission

4:15-5:00—**Acute Pancreatitis: Principles of Management**—J. Edward Berk, M.D.

Thursday Evening

7:00 p.m.—No Host Social Hour

8:00 p.m.—Dinner and Dancing

FRIDAY, MAY 8

Morning Session

Presiding: John Peckler, M.D., Fresno

8:30-9:30—**Film**

9:30-10:15—**Some Diagnostic and Therapeutic Considerations of the Gallbladder and Bile Ducts**—J. Edward Berk, M.D.

10:15-10:30—Intermission

10:30-11:15—**Achalasia**—Olov A. Blomquist, M.D.

11:15-12:30—CONCURRENT SESSIONS (you may go to one of your choice):

A. **Gastric Ulcer Problem**—Thomas Fuson, M.D., Moderator. Olov A. Blomquist, M.D., Norman Shrifter, M.D., Owen H. Wangensteen, M.D.

B. **Gastrointestinal Fistulas**—Benjamin Packer, M.D., Moderator. Clell Gray, M.D., David B. Hinshaw, M.D., Walter L. Stilson, M.D.

C. **Peritonitis**—Dale Kirkegaard, M.D., Moderator. J. Edward Berk, M.D., Richard Van Meter, M.D., Morton M. Woolley, M.D.

Afternoon Session

Presiding: Richard Smiley, M.D., Fresno

2:30-3:15—**Gastroenterology Problems of Infants and Children**—Morton M. Woolley, M.D.

3:15-4:00—**Cancer of the Stomach, Colon and Rectum: Problems of Diagnosis, Therapy and Results**—Owen H. Wangensteen, M.D.

PUBLIC HEALTH REPORT

MALCOLM H. MERRILL, M.D., M.P.H.
Director, State Department of Public Health

A PROGRAM TO STRENGTHEN and expand immunization services in California is under way, with the objective of attaining in the population maximum benefit in terms of the prevention of infectious disease through the use of currently available immunizing agents.

The four-year program is supported by Federal grant funds authorized by the Vaccination Assistance Act of 1962. The program will emphasize the effort to catch up on the backlog of unimmunized or inadequately immunized youngsters under the age of five against four diseases—poliomyelitis, tetanus, diphtheria and pertussis.

An effort will also be made to develop improved methods, utilizing both private and public facilities, to ensure the maintenance of high levels of immunity in the general population.

As part of the program, the Health Department will carry out developmental laboratory studies of the fluorescent antibody techniques for the diagnosis of pertussis and diphtheria and for their adaptation for use in local public health laboratories. Studies also are being made of micro-titer serologic techniques for antibody level determinations and for adaptation of this technique to survey procedures and population groups.

Early program planning with the California Medical Association and representatives of the California Academy of General Practice, the Academy of Pediatrics and the California Conference of Local Health Officers has developed guidelines to be followed in the implementation of program activities in local areas.

These are as follows:

General Statement: It is recognized there is a segment of our population that is not adequately immunized against these diseases for which we have effective immunizing agents. It is generally recognized that this segment of the population also does not avail itself of general health services for a variety of reasons.

Recommendations are that:

1. Appropriate immunization educational programs be developed and directed toward the entire community.

2. Current immunization services and facilities be strengthened and extended, rather than the development of "crash" programs.

3. Programs be developed to reach those who do not avail themselves of medical services provided either by private physicians or public health clinics.

4. All immunization activities be under competent medical supervision such as the county medical society or local health department.

5. A statewide survey, extended by local surveys, be carried out to determine immunization levels, and research programs to determine why certain people do not avail themselves of immunization and other medical services.

6. Decisions as to details of programs be matters for local option and local determination.

* * *

Surveillance information shows that influenza is widespread throughout California, with laboratory-confirmed cases of Type A reported from ten counties: Contra Costa, San Francisco, Marin, Napa, Fresno, Alameda, Los Angeles, Solano, San Diego and Orange. In these instances, however, the individual cases have not been associated with noticeable outbreaks.

School absenteeism has increased to levels ranging from 9 to 10.5 per cent in some areas, and in isolated instances, it has risen to 15 per cent or more.

The number of pneumonia-influenza deaths reported from eight cities has risen sharply above anticipated levels. At this time, the Pacific Coast region is the only one where pneumonia-influenza deaths are above the epidemic threshold.

* * *

During the period 1953-62, 357 cases of tetanus were reported in California, of which 166 were fatal. While there has been a gradual downward trend in the number of cases annually, the case fatality rate has remained constant at about 45 per cent.

The importance of active immunization against tetanus cannot be overemphasized. The experience of the Armed Forces during World War II and further experience since then has amply demonstrated the lifesaving potential of this immunizing agent.

Since the disease is not confined to any specific age or occupational groups, active immunization with tetanus toxoid should be a routine phase of medical care for all people.

INFORMATION

Voluntary Health Insurance Coverage in California, 1962

A Report of the Bureau of Research and Planning, California Medical Association

At the end of 1962 approximately 11.9 million people, or slightly over seven out of every 10 of an estimated civilian population of 16,737,000 people in California,* were covered under some form of voluntary health insurance. These forms of health care coverage include hospital, surgical, regular medical and major medical expense benefits. The per cent of the civilian population covered under insurance providing surgical benefits was approximately 67.5 per cent while those covered by regular medical coverage included 57.0 per cent of the same population. The per cent covered for hospital expense was 71.4 per cent.

Table 1 indicates the proportion of the population covered respectively for the various types of health care protection in the United States and California. At the end of 1962 an estimated 76 per cent of the population of the United States was enrolled in a program providing hospital expense coverage as against 71 per cent of the California population. The proportion of persons covered for surgical service benefits was also greater for the United States, representing 71 per cent of the population, while almost 68 per cent of the California population was covered for these benefits.

TABLE 1.—*Per Cent of Persons Covered in Some Form Against Hospital, Surgical, and Regular Medical Expense in the United States and California, December, 1962*

Forms of Coverage	United States	California
Hospital	76.4%	71.4%
Surgical	70.7	67.5
Regular Medical Expense	52.9	57.0

California's population had 4 per cent more coverage for regular medical expenses; the proportion of the population reportedly covered was 58 per cent for California and 53 per cent for the United States.

Although there are several states whose per cent of population covered is of greater proportion for these various types of coverage, on the average (taking the total United States experience) one can assume that Californians possess a better balance of health care services.

Over 7 out of every 10 of the estimated *civilian* population of 16.7 million persons in California were covered by some form of voluntary health insurance at the end of 1962. The forms of protection included hospital, surgical, regular medical and major medical expense benefits.

Over 71 per cent of Californians were covered for hospital expenses. The per cent of the civilian population of California covered for surgical benefits was almost 68 per cent, while 57 per cent were covered for regular medical expense.

Comparable percentages for the United States are approximately 76 per cent (hospital), 71 per cent (surgical), and 53 per cent (regular medical).

While the percentage of the State's population covered for hospital and surgical expenses is below that for the United States, it is higher for regular medical expense benefits.

The rate of increase in coverage for the different forms of health care protection in California exceeded the rate of population growth during the one-year period ending 1962.

It is estimated that as of December, 1962, over three million Californians were covered by major medical expense insurance.

The foregoing summary and the information in the accompanying text does not reflect the total number of persons in California who receive or are eligible for health care services. A large variety of government financed programs on local, state and federal levels either finance or provide such services to an estimated 40 to 50 per cent of the California population which does not have voluntary health insurance coverage.

No current data are available regarding the number of persons who do not desire voluntary health insurance coverage for a variety of personal or financial reasons.

California's coverage experience is unique in that not only is the State's population continuing to increase at a relatively significant rate (over 3 per cent per annum), but the per cent increase in coverage is greater than population growth, with hospital coverage showing the greatest increase. Table 2 indicates the increase in the number of persons covered at the end of 1962 by comparing this number with those covered at the end of 1961.

TABLE 2.—*Number of Persons Covered by the Various Forms of Coverage in California, 1961 and 1962, and the Comparative Increase in Coverage*

Form of Coverage	1961	1962	Absolute Increase	Per Cent Increase
Hospital	11,170,000	11,946,000	776,000	6.9%
Surgical	10,712,000	11,299,000	587,000	5.8
Regular Medical	9,065,000	9,543,000	478,000	5.3

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*Civilian population estimate as of July 1, 1962.

Source: Health Insurance Council 17th Annual Survey, *Voluntary Health Insurance Coverage*, United States, December 31, 1962.

There has been a significant increase in those persons covered by hospital expense benefits; this reverses an earlier trend which showed that during 1961 regular medical expense coverage experienced a faster growth rate than did either hospital or surgical coverage.

Major medical expense insurance, the fastest growing type of voluntary health insurance in the United States, covered 38.2 million persons at the end of December, 1962. No state breakdowns are available, but if the same proportion of persons in California are enrolled under this program as are under those for hospital expense, it can be estimated that over three million persons in California have such coverage.

Since these figures and per cents are gross and do not represent an evaluation of coverage in terms of an available market for voluntary health insurance, perhaps a few comments are in order to place the data in somewhat finer perspective. Aside from those persons who, for personal reasons, do not desire voluntary health insurance coverage, a large number and a significant per cent of those not coming under voluntary health insurance coverage are provided with health care services, or have such services financed for them. These would include—but are not limited to—persons eligible for care through the U.S. Public Health Service, such as American Seamen; those persons eligible for care such as veterans whose care in many cases is for non-service connected conditions; persons who receive care under vocational rehabilitation; people eligible for care under California's Public Assistance Medical Care Program; Armed Forces Personnel and dependents covered in the Medicare Program; the services provided under the Crippled Children's Program administered by the State Department of Public Health; and last but not least, persons who have no other type of coverage but who are covered by Disability Insurance Hospitalization Benefits, administered by the State Department of Employment.

It is estimated that between 40 per cent to 50 per cent of the remaining five million persons in California not covered by voluntary health insurance have some other type of health care protection. Thus a higher per cent of the population in California has health care service programs available to them than is reflected just in the enrollment under voluntary health insurance programs.

693 Sutter Street, San Francisco, California 94102.

Health Care for the Aged

I AM DR. HENRY S. BLAKE, and I am engaged in the private practice of medicine in Topeka, Kansas. I am appearing here today as Chairman of the Board of Directors of the National Association of Blue Shield Plans. Accompanying me is Mr. John W. Castelluci, Executive Vice President of the Association.

The National Association of Blue Shield Plans is the coordinating organization of the Blue Shield Medical Care Plans which now provide prepaid medical and surgical care benefits to 49 million people throughout the United States. The Association has 71 Member Plans. The Association's main purpose is to help its Member Plans do a continuously better job for the people in their respective areas, and to foster public and professional support for the voluntary, nonprofit, community-sponsored medical care prepayment program.

The Blue Shield name and symbol is a respected and nationally recognized service mark. It identifies those prepayment Plans which are endorsed by the medical profession and which offer benefits specifically related to the medical needs and resources of their local communities. As part of its continuing effort to improve these programs, the National Association of Blue Shield Plans requires each Member Plan to reapply for membership each year, and to meet certain standards of quality and performance.

Blue Shield and Blue Cross share a common objective—to make available a comprehensive medical and hospital prepayment service to the entire population. Blue Shield is engaged in covering physicians' services, while Blue Cross is devoted to the payment of hospital services. Although the local Blue Cross and Blue Shield Plans work in close cooperation in most parts of the country, they are distinctly separate organizations, both locally and nationally.

The leaders of Blue Shield and of the medical community have recognized that aging people present special problems in respect to their needs for medical care—just as do many other particular segments of the population such as the chronically ill, the handicapped, and the indigent. One of the chief distinctions of Blue Shield Plans is that they have always sought to bring the resources of the entire community to bear upon the problems of each of its component groups.

The growth of Blue Shield is an impressive demonstration of the growing national concern to make adequate prepayment mechanisms for medical care available to all who need such help—regardless of

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A Statement before the Committee on Ways and Means, United States House of Representatives, by Henry S. Blake, M.D., Chairman of the Board of Directors, National Association of Blue Shield Plans, January 23, 1964.

age. The various bills now before your committee are further manifestations of this concern. And the Kerr-Mills Act is evidence of Congressional competence to deal effectively and wisely with the medical care problems of our aging citizens. It is clear that a deep and constructive interest in medical care for the aged is not the exclusive property of those who favor HR 3920.

For many years the profession has been moving steadily—in the development of Blue Shield and along many other lines—to meet these needs not only for the aged, but for all the members of the community.

Blue Shield membership now includes approximately 4 million citizens past 65 years of age, and our programs permit everyone to continue his Blue Shield coverage as he passes the age of 65. This means that a constantly growing proportion of America's working population can look forward confidently to a continuation of their medical care prepayment programs when they reach retirement age.

In the process of Blue Shield's growth, it has naturally become ever more involved with the health care problems of the aged. In 1951, 5% of all Blue Shield members, or nearly 1 million persons, were 65 years of age or older. By 1959, this number had grown to more than 2½ million persons representing 6.4% of all Blue Shield members, and our present Blue Shield membership of 4 million persons over 65 represents 8.2% of our entire membership. It is particularly significant that while total Blue Shield membership during the past 18 months has increased about 5½%, the number of persons over age 65 covered by Blue Shield has increased 21%. Thus, the growth rate of coverage of older persons is now nearly four times the growth rate of all age groups combined. This is accounted for by the fact that Blue Shield is offering a good program, a constantly improving program, and is aggressively selling it.

In 1959, only 10 Plans offered individual non-group membership without age limit. Today, 69 of the 71 U.S. Blue Shield Plans, representing over 99% of the total U.S. Blue Shield membership, have available individual non-group coverage for persons over 65.

A distinctive characteristic of most Blue Shield Plans has always been the provision of benefits on a fully paid "service benefit" basis, particularly for Blue Shield subscribers in the medium and lower income brackets.

Through the service benefit feature, which is now embraced to some degree by nearly all Blue Shield Plans, the local physicians enter into a voluntary—but binding—agreement with their local Plans to accept Plan payment for all covered services, provided the income of the subscriber falls within certain locally specified income levels.

The service benefit feature has been applied to Blue Shield senior citizen programs even more completely than to the programs for other age groups. Of the 69 Blue Shield Plans that now offer a special senior citizen program, 61 of them provide benefits on a fully prepaid service basis to the senior citizens of low income.

Apart from the remarkable progress made in providing health insurance coverage on an individual basis to those 65 and over, an even more significant development has been the increasing practice of both local and national labor and management groups to negotiate a provision in their health and welfare program for the continued coverage of retired employees under the same arrangements and conditions—the same rates and benefits—as have been established for active employees. The best example is the pattern adopted by the Federal Government for its own retiring employees. I'm sure you know that Blue Shield and its companion hospital Plan, Blue Cross, cover well over 1,150,000 Federal employees plus the members of their families for a total of approximately 3½ million people. Each year more than 25,000 retiring Federal employees take their Blue Shield protection into retirement. As retirees, these Federal employees, like many retiring from private industry, are assisted by their former employer in continuing their health coverage.

And just as the States and the Federal Government match funds to provide medical care for the aged who are medically indigent, so the solvent individual and his employer, by matching funds in this manner, make possible the continuation of medical progress under the voluntary system.

But our enrollment of older people in Blue Shield and Blue Cross Plans is only a part—though a very major part—of the volume of medical care protection now voluntarily supported by those in the age groups over 65. Some $8 billion was invested by Americans last year in voluntary health insurance and $3.2 billion of this was invested in Blue Shield and Blue Cross. It is pretty evident that the people of the United States like the voluntary approach to this problem!

It is also clear that a significant and growing proportion of the over 65 population can and will provide for their medical needs through programs of their own choice—once such programs are readily available to them. And it is equally clear that acceptable programs are now much more readily available to the elderly than ever before.

The public acceptance of prepayment through Blue Shield has been phenomenal. The growth of voluntary health insurance has astounded its friends and confounded its critics.

In the brief span of 23 years, marked by war, recession, and inflation, Blue Shield membership has grown from 370,000 to 49 million and the total number of people covered by voluntary health insurance has grown from 12 million to more than 145 million, which represents 77% of the entire U.S. population.

These achievements offer reassurance for the future. There is every reason to expect that the proportion of the over 65 population covered by voluntary health insurance will soon match the percentage of the total population covered by voluntary health insurance, and that both the quantity and quality of coverage for those on both sides of the 65 year line will continue to improve at a rapid pace.

In short, gentlemen, we are dealing with a problem which from day to day is progressively finding a more adequate solution through voluntary methods—through the cooperative mechanisms established by those who wish to obtain and those who stand ready to provide medical care. Conversely, as the pace and degree of the private solution of this problem increases, the residue which requires governmental assistance proportionately grows smaller and smaller from day to day. The problem of financing health care for the aged is a diminishing problem.

Under "Findings and Declaration of Purpose," HR 3920 starts out by having Congress find as a fact that, "the heavy costs of hospital care and related health care are a grave threat to the security of aged individuals." We challenge the accuracy of this statement. We who have pioneered the voluntary health care movement are the first to acknowledge that there will always be some people in all age groups who cannot purchase the medical care they need through their own resources. This relatively small group of people must be, to some degree, a responsibility of the community.

However, it seems wholly illogical to provide for the few whose need is real by embracing the many who do not need help, through the duplicative and costly device proposed in HR 3920. It is equally tragic to enact any program which would supplant or jeopardize the accomplishments of the voluntary cooperative program of which Blue Shield is an important component.

We believe—indeed, I'm sure that all of us believe—that people of *any* age who need help in availing themselves of medical care should and must have help. If today, Blue Shield and Blue Cross were suddenly eliminated from the American scene, a very large number of people would suddenly find themselves medically indigent in event of any important medical emergency.

Why should Congress be asked to attack a problem of specific, identifiable need for those citizens over 65 by means of a program that would cover everyone of this age—irrespective of need—and yet fall tragically short of matching or equaling the benefit programs which it would displace?

Furthermore, the provisions of HR 3920 are costly even in terms of the limited benefits the bill proposes to offer. We concur with those who have informed your committee that the ultimate cost of this limited program is totally unpredictable. Competent authorities maintain that the proposed additional tax would not be sufficient to finance the benefits offered, and we have seen no evidence to the contrary.

If HR 3920 is enacted, it will inevitably and necessarily be only the first step toward a comprehensive program of federal health insurance. Friend and foe of HR 3920 both acknowledge this fact. Before long, Congress would certainly be asked to extend this limited program by making provision for the payment of surgical and medical services for the aged. As has been the history of all other elements of the Social Security Program, every Congressional session will be urged to expand this program. And the force of the argument to support the extension of federally operated medical care programs will be enhanced to the extent that the vitality of the voluntary system has been sapped by ill-conceived governmental intervention in the provision of health care.

The government irreparably injures the public interest if it sets up a program which will inhibit further growth and development of the voluntary plans, and perhaps ultimately nullify their contribution to the health and welfare of the entire population.

In our statement before this committee two years ago, the National Association of Blue Shield Plans suggested that "some arrangement whereby voluntary organizations can be utilized by government to provide health care for the needy might well be the answer." In our opinion, Congress has provided an instrument, in the Kerr-Mills Program, which if improved and fully implemented, is the best answer yet evolved for the specific problems of our aged and needy citizens.

We can demonstrate the practicality of utilizing Blue Shield Plans as underwriters of the services to be provided the needy elder citizens through the Kerr-Mills Program. We in Blue Shield would welcome a much broader opportunity to make our contribution to this program.

The Kerr-Mills Program is essentially right. It can provide medical care assistance where and when it is needed. It can provide a comprehensive scope of care. It can provide the kind of care that a patient needs and to the full extent that he needs it. Its cost is supported by the entire community instead of being loaded upon the wage earner, as in HR 3920.

And the Kerr-Mills Program can be improved. It can be amended in such a way as to promote and encourage the use of the voluntary, nonprofit prepayment plans for underwriting the benefit program. This would permit needy elderly people to avail themselves of the services of their own freely chosen physicians and hospitals without a "means test" at the time when these services are needed.

By adapting Kerr-Mills to the voluntary prepayment structure, Congress not only would strengthen the Kerr-Mills Program, but it would also make a tremendous contribution to the security and strength of America's entire voluntary health insurance program. Thus, it would enhance the value and usefulness of the voluntary prepayment program for *all* the citizens of the United States who are now or should become its beneficiaries. By utilizing the prepayment plans, Congress would also achieve a stability and a predictability of cost for the Kerr-Mills program that is obtainable in no other way.

The voluntary prepayment system, of which Blue Shield is a major part, has proved that it can do a satisfactory job for a very large proportion of the population, including a majority of the very people whom HR 3920 is designed to serve. We believe that Congress can best serve the interests of all the people of the United States by making the fullest possible use of the existing prepayment system to underwrite the medical care needs for all those segments of the population for whose aid or support our government has a legitimate role.

We in Blue Shield would welcome any opportunity to aid and advise Congress in any plans to accomplish this objective.

As a means of effecting the improvement of the Kerr-Mills Program, through maximum utilization of the established nonprofit, voluntary prepayment plan, we recommend that Congress consider amending the Social Security Laws to accomplish the following objectives:

1. Provide for a clear separation of the MAA program from the OAA program, and for professional medical control and guidance of the MAA program.

2. Direct the Secretary of HEW to fulfill the intent of Congress in making maximal use of established prepayment plans to underwrite the MAA program in the various states, in order to stabilize the costs of this program, to minimize its welfare aspects, and to eliminate the means test at the time when medical care is required.

To recapitulate our presentation to your committee, Mr. Chairman, I would offer the following summary observations:

Blue Shield Plans, created and developed by the local physicians in cooperation with labor, industry, and community leaders throughout the United States, have long been aware of the special needs of older citizens for medical care, and for the economic means of obtaining such care.

Approximately 4 million citizens in the over 65 age group are now enrolled in Blue Shield Plans, and Blue Shield members under 65 have the privilege of continuing their Blue Shield coverage after reaching the 65 year mark.

Blue Shield members over 65 now represent more than 8% of the entire Blue Shield enrollment, and enrollment of over 65 subscribers is growing four time as fast as our total enrollment. The great majority of these elderly Blue Shield members are entitled to covered medical services on a prepaid basis, without additional cost for such services.

Our experience convinces us that the problem of providing medical care for the elderly is in process of solution, largely through voluntary methods, supplemented by such programs as the Kerr-Mills Act, and that its solution would be hastened by utilizing the Kerr-Mills mechanism with whatever additional direction is necessary, and by using the voluntary prepayment plans to underwrite prepaid programs for the needy aged.

We take reasonable pride in the accomplishments of Blue Shield—accomplishments largely to be credited to the medical profession and the community leaders who together have created and guided Blue Shield.

Rather than setting up an inadequate program for everyone who has attained a certain age—regardless of his need for it—we urge that Congress build upon the solid foundations of legislative enactment represented by the Kerr-Mills Program, and of voluntary initiative represented by Blue Shield and its companion hospital plan, Blue Cross. We urge that Congress take advantage of the knowledge and experience of the voluntary prepayment plans to strengthen the Medical Aid to the Aged program. By doing so, we submit that Congress would discharge its public responsibility to the aged and it would also greatly contribute to the ultimate success of America's voluntary prepayment plans in serving the medical needs of the entire community.

NEWS & NOTES

NATIONAL · STATE · COUNTY

LOS ANGELES

Four outstanding students from the four Los Angeles area medical schools received surprise **gifts of full tuition scholarships** for their final year at the annual Student American Medical Association Conference last month in Los Angeles.

Checks for the scholarships came from the Los Angeles County Medical Association Foundation for Medical Education, whose purpose is to aid medical students at schools in the Los Angeles area..

The four students were among several hundred who attended the 11th annual SAMA meeting sponsored jointly by LACMA and the California Medical Association. They were Robert Caneday, University of Southern California; Russell Reit, University of California at Los Angeles; Jeremiah E. Donoghue, Jr., California College of Medicine, and Mrs. Mildred Werner, Loma Linda University.

The presentations were made by Dr. Elmer F. Gooel, president of LACMA "in recognition of scholarship attainments as well as other attributes."

The conference is to acquaint medical students with facets of practice not covered in classroom work. Panel discussions at the conference were moderated by Dr. Samuel R. Sherman, San Francisco, then president of the CMA.

* * *

The first meeting of the Institute For Comprehensive Medicine will be held at the Los Angeles County Medical Association Auditorium on May 7, 1964 at 8 p.m. The theme will be **"Psychiatry for the Non-Psychiatrist."** The two topics, which will be discussed by outstanding panelists, are: "What the General Practitioner Can Do to Help the Anxious and Tense Patient" and "The Chemotherapeutic Management of the Depressed Patient."

* * *

The Veterans Administration Hospital, Long Beach, will hold its **Third Annual Alumni Day** on May 27, 1964, at the hospital. The program:

Open House	2:00 to 4:00 p.m.
Scientific Program *(Presentation of papers by residents)*	4:00 to 5:30 p.m.
Social Hour	5:30 to 6:30 p.m.
Dinner	6:30 p.m.

Further information and registration forms may be obtained by calling GEneva 9-6861, Ext. 222, or writing Mrs. Mildred Hawkins, Office of the Chief of Staff, VA Hospital, Long Beach.

The La Vina Sanatorium and Hospital of Altadena has opened a new unit of 25 beds for the **care of non-tuberculous respiratory diseases.** Dr. W. H. Oatway, medical director, announced that Dr. Irving Kass of Denver will be physician-in-charge. La Vina, a non-profit hospital, was founded in 1909.

SANTA CLARA

"Cancer: Facts, Fallacies and Philosophies" will be the topic of the seventh annual Clinic Day medical meeting sponsored by the Palo Alto Medical Clinic and the Palo Alto Medical Research Foundation on Saturday, April 18. The all day meeting, which will deal with every aspect of the cancer problem, will start at 9:00 a.m. in the auditorium of Channing House, Homer Avenue, corner of Webster Street, Palo Alto. Registration will begin at 8:30 a.m. there.

GENERAL

An increase in stipend rates for predoctoral fellowships awarded on or after July 1, 1964 has been announced by the Public Health Service. The increased stipends will put into effect the recommendations of senior scientists in educational institutions throughout the nation, according to Dr. Luther L. Terry, Surgeon General of the Public Health Service.

The stipends at each predoctoral level will be increased by $600, raising them to $2,400 for the first year, $2,600 for intermediate years, and $2,800 for the terminal year.

Applications for predoctoral fellowships can be submitted at any time to the Career Development Review Branch, Division of Research Grants, National Institutes of Health, Bethesda, Maryland, 20014.

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The Pacific Coast Fertility Society will convene at the El Mirador Hotel in Palm Springs, California on November 12, 13, 14 and 15, 1964.

CMA to Meet in San Francisco

The 94th annual session of the California Medical Association will be held in San Francisco, March 27-31, 1965.

These dates will not conflict with Easter week as did the dates of past two annual sessions.

Five hundred California physicians have received a mailed questionnaire from the State Department of Social Welfare seeking their opinions on what are the most and the least essential of the services provided state medical care recipients.

Dentists, pharmacists, social workers and administrators also have been queried. In addition, 10,000 aid recipients in 11 counties have received questionnaires designed to learn their awareness, use, opinion and needs of service.

EDUCATION NOTICES

MEETINGS AND COURSES

COMMITTEE ON CONTINUING MEDICAL EDUCATION

THIS BULLETIN of the dates of continuing education programs and the meetings of various medical organizations in California is supplied by the Committee on Continuing Medical Education of the California Medical Association. In order that they may be listed here, please send communications relating to your future meetings or postgraduate courses to Committee on Continuing Medical Education, California Medical Association, 693 Sutter Street, San Francisco, California 94102.

MEDICAL MEETINGS

APRIL MEETINGS

April 7-May 12—**Spring Series of Postgraduate Medical and Surgical Clinics.** Sponsored by San Francisco Academy of General Practice. Tuesday nights, 8:00 to 10:00 p.m. Fort Miley Veterans Administration Auditorium. 12 hours credit. Members: $15.00, non-members: $20.00. Contact: Benton D. Mathews, M.D., chairman, 2555 Ocean Avenue, San Francisco 94127.

April 20-22—**Harvey Cushing Society.** Ambassador Hotel, Los Angeles. Monday-Wednesday. Contact: Eben Alexander, Jr., M.D., secretary, Bowman Gray School of Medicine, Winston-Salem, N.C.

April 22—**Los Angeles County Heart Association.** Annual meeting. Statler-Hilton, Los Angeles. Wednesday. Noon. Contact: Chauncey A. Alexander, executive director, 2405 West Eighth Street, Los Angeles 90057.

April 27-29—**Nevada's Sixth Annual Cancer Seminar.** "Multi-Discipline Approach to Cancer Therapy." Sponsored by American Cancer Society, State/County Medical and Dental Societies. Sahara Hotel, Las Vegas. Monday-Wednesday. Full session: $25 (two luncheons). One day: $10 (plus luncheon). Contact: Kirk V. Cammack, M.D., chairman, 418 East Hoover #7, Las Vegas, Nevada 89101.

April 29-May 1 — **American Cleft Palate Association.** Statler-Hilton Hotel, Los Angeles. Wednesday-Friday. Contact: Betty Jane McWilliams, Ph.D., secretary-treasurer, University of Pittsburgh.

April 30-May 2 — **American Cleft Palate Association.** Statler-Hilton, Los Angeles. Contact: Betty Jane McWilliams, Ph.D., secretary-treasurer, University of Pittsburgh.

April 30-May 3—**Hawaii Medical Association.** 108th Annual Meeting. Princess Kaiulani Hotel, Honolulu. Thursday-Sunday. Contact: Randal A. Nishijima, secretary, 1124 Piikoi, Honolulu 14.

MAY MEETINGS

May 1-3—**Society of Biological Psychiatry.** Biltmore Hotel, Los Angeles. Contact: George N. Thompson, M.D., secretary-treasurer, 2010 Wilshire Boulevard, Los Angeles 90057.

May 1-4—**American Psychoanalytic Association.** Ambassador Hotel, Los Angeles. Contact: Mrs. Helen Fischer, executive secretary, 1 East 57th Street, New York 10022.

May 2—**Guild of Catholic Psychiatrists.** Biltmore Hotel, Los Angeles. Contact: Robert Buckley, M.D., executive secretary, 2216 Santa Monica Boulevard, Santa Monica.

May 2-3—**Academy of Psychoanalysis.** Biltmore Hotel, Los Angeles. Contact: Alfred H. Rifkin, M.D., Academy of Psychoanalysis, 125 East 65th Street, New York 10021.

May 3—**Association for Advancement of Psychotherapy.** Los Angeles. Contact: William Wolf, M.D., executive secretary, 40 West 59th Street, New York.

May 4-8—**American Psychiatric Association.** Biltmore Hotel, Los Angeles. Contact: Harvey J. Tompkins, M.D., secretary, 144 West 12th Street, New York 10011.

May 7—**Institute for Comprehensive Medicine.** Los Angeles County Medical Association Auditorium. Thursday, 8:00 p.m. Theme: Psychiatry for the Non-Psychiatrist. Contact: Clinton H. Thienes, M.D., medical director, Institute of Comprehensive Medicine, 9735 Wilshire Boulevard, Beverly Hills.

May 13-15 — **Highlights of Modern Ophthalmology.** Presbyterian Medical Center, San Francisco. Wednesday-Friday. $75. Contact: Secretary of the Lions Eye Bank, Presbyterian Medical Center, 2018 Webster Street, San Francisco.

May 14-16—**California Hospital Association.** Institute on Medico-Legal Problems. Ambassador Hotel, Los Angeles. Thursday-Saturday. $55. Contact: A. M. Millard, California Hospital Association, 760 Market Street, San Francisco 94102.

May 14-15—**Nevada Academy of General Practice.** Reno or Sparks. Contact: Mark B. Raymond, M.D., secretary-treasurer, 1001 Pyramid Way, Sparks, Nevada.

May 15-17—**California Heart Association.** Scientific Sessions and Annual Meeting. Hotel Del Coronado, Coronado. Contact: Paul H. Morton, M.D., chairman, Annual Meeting Committee, California Heart Association, 1370 Mission Street, San Francisco 94103.

May 20—**The Annual Symposium of the Medical Staff of Memorial Hospital of Long Beach.** Wednesday. Memorial Hospital, 2801 Atlantic Avenue, Long Beach. Contact: George X. Trimble, M.D., symposium secretary, Memorial Hospital of Long Beach.

May 23—**Ventura General Hospital Medical Staff.** Third Annual Medical Seminar. General Hospital, Ventura. 8:00 a.m. - 4:30 p.m. Contact: R. A. Blossom, M.D., Director of Laboratories.

May 29-31 — **California Society of Anesthesiologists.** First Social-Scientific Meeting. "Ventilation—with emphasis on intermittent positive pressure breathing." Riviera Hotel, Palm Springs. $15. Contact: Mr. Norman Catron, executive secretary, 39 North San Mateo Drive, San Mateo.

JUNE MEETINGS

June 10—**Los Angeles Radiological Society.** Los Angeles. Wednesday. Contact: Bernard J. O'Loughlin, M.D., executive secretary, Department of Radiology, UCLA Center for Health Sciences, Los Angeles 90024.

June 13—**Golden Gate Psychotherapy Society.** The Seventh Annual Scientific Conference and Institute. Millberry Union, University of California Medical Center, Parnassus and Arguello Streets, San Francisco. Saturday. 9:30 a.m.-4:00 p.m. Contact: F. H. Ernst, M.D., program chairman, 408 Tennessee Street, Vallejo.

June 17-20 — **Society of Nuclear Medicine.** Berkeley. Wednesday-Saturday. Contact: S. N. Turiel, executive secretary, 333 North Michigan, Chicago 60601.

June 18-19 — **American Rheumatism Association.** St. Francis Hotel, San Francisco. Thursday-Friday. Contact: Gerard W. Speyer, executive secretary, 10 Columbus Circle, New York 19.

June 18-20 — **Endocrine Society.** Sheraton-Palace Hotel, San Francisco. Thursday-Saturday. Contact: Henry H. Turner, M.D., secretary, 200 North Walker, Oklahoma City.

June 18-21—**American Therapeutic Society**—St. Francis Hotel, San Francisco. Thursday-Sunday. Contact: Oscar B. Hunter, Jr., M.D., secretary, 915 19th Street NW, Washington 6, D.C.

June 18-22—**American College of Chest Physicians.** Jack Tar Hotel, San Francisco. Thursday-Monday. Contact: Murray Kornfield, executive director, 112 East Chestnut, Chicago 60611.

June 19-20 — **American Geriatrics Society.** Sir Francis Drake Hotel, San Francisco. Friday-Saturday. Contact: Edward B. Allen, M.D., secretary, 10 Columbus Circle, New York 19.

June 20—**Academy of Tuberculosis Physicians.** California Hotel, San Francisco. Saturday. Contact: George P. Bailey, M.D., secretary, 1295 Clermont, Denver 20.

June 20—**American Association for Study of Headache.** San Francisco. Saturday. Contact: Lester S. Blumenthal, M.D., secretary, 5315 Connecticut Avenue NW, Washington 15, D.C.

June 21-25 — **American Medical Association.** Fairmont and Mark Hopkins hotels and Civic Auditorium, San Francisco. Sunday-Thursday. Contact: F. J. L. Blasingame, M.D., vice-president, 535 North Dearborn, Chicago 60610.

June 21—**Society for Surgery of the Alimentary Tract.** San Francisco. Sunday. Contact: Robert Turell, M.D., executive secretary, 25 East 83rd Street, New York 28.

June 21—**Society for Vascular Surgery.** San Francisco. Sunday. Contact: George H. Yeager, M.D., secretary, 314 Medical Arts Building, Baltimore 1.

June 21-23 — **Society for Investigative Dermatology.** Sheraton-Palace Hotel, San Francisco. Sunday-Tuesday. Contact: Herman Beerman, M.D., secretary-treasurer, 255 South 17th Street, Philadelphia 3.

June 21-25—**Women's Auxiliary to the American Medical Association.** St. Francis Hotel, San Francisco. Sunday-Thursday. Contact: Margaret N. Wolfe, executive secretary, 535 North Dearborn, Chicago 60610.

June 22-24 — **American Laryngological, Rhinological and Otological Society.** San Francisco. Monday-Wednesday. Contact: Victor R. Alfaro, M.D., secretary, 917 20th Street NW, Washington, D.C.

June 22-24—**Association for Research in Ophthalmology.** San Francisco. Monday-Wednesday. Contact: Herbert Kaufman, M.D., executive secretary, c/o Hillis Miller Health Center, Gainesville, Florida.

June 26-July 1 — **Second Hawaii Medical Seminar.** Sponsored by Hawaii Medical Association. Honolulu, Hawaii. Friday-Wednesday. Contact: Lee McCaslin, executive secretary, Hawaii Medical Association, 510 South Beretania Street, Room 200, Honolulu 13, Hawaii.

FUTURE MEETINGS

August 11-14—**American Society for Pharmacology and Experimental Therapeutics.** San Francisco.

September 24-26—**American College of Obstetricians and Gynecologists (District 8).** San Diego.

October 8-10—**The American College of Physicians Fall Sectional Meeting.** Los Angeles.

POSTGRADUATE EDUCATION

AUDIO-DIGEST FOUNDATION

Audio-Digest Foundation (a non-profit subsidary of the California Medical Association) provides by subscription twice-a-month tape-recorded summaries of leading national meetings and authoritative surveys of current literature. Seven separate services in: General Practice, Surgery, Internal Medicine, Obstetrics-Gynecology, Pediatrics, Anesthesiology, and Ophthalmology. A new Catalog of outstanding lectures and panel discussions in all areas of medical practice is also available. For information, write: Mr. Claron L. Oakley, Editor, 619 South Westlake Avenue, Los Angeles.

UNIVERSITY OF CALIFORNIA AT LOS ANGELES

April 2-June 4—**Concepts of Mental Health Consultation.** UCLA. $25.

April 4-25—**Postgraduate Medical Lecture Series in Japan, Formosa and Hong Kong.** Monday-Friday. 24 hours. $200. (Including Taiwan, $225.)

April 18-19—**A Symposium on Sexual Problems.** Saturday-Sunday. 12 hours.*

April 20-24—**Child Amputee Prosthetics.** Monday-Friday. 45 hours. $125.

May 2-3—**Chemotherapy.** Saturday-Sunday. 12 hours.*

May 16—**Management of Medical Emergencies.** Saturday. 6 hours.*

May 17—**Management of Pediatric Emergencies.** Sunday. 6 hours*

June 20-21—**Surgery of the Hand.** Saturday-Sunday. 12 hours.*

Dates by Arrangement—**Clinical Traineeship**—Anatomy, Anesthesia, Dermatology, Pediatrics, Radioisotopes, Urology: 2 weeks, $150; 4 weeks, $250. Minimum period, 2 weeks.

For information on courses for physicians or ancillary personnel, contact: Thomas H. Sternberg, M.D., Assistant Dean and Head, Department of Continuing Education in Medicine and Health Sciences, U.C.L.A. Medical Center, Los Angeles 24, 478-9711, Ext. 2114.

LOMA LINDA UNIVERSITY

As Arranged—**Traineeships** in clinical and other departments are available by arrangement with department chairmen of the Postgraduate Division. 80 hours minimum.

Anesthesia, 6 months. 250-300 hours. $350.

Pulmonary Diseases—can be arranged.

Continuously—**Illustrated Medical Lectures:** 30-minute tape recordings and accompanying 35-mm filmstrip, 50 to 80 full-color pictures for screen, hand or desk viewer. Available individually or by subscription. 12 or 36 titles per year, all titles produced in one year in any chosen specialty. Projectors and viewers included in subscription plans. Contact: Loma Linda University, Illustrated Medical Lectures, Los Angeles 33.

For course information contact: W. F. Norwood, Ph.D., Assistant Dean and Chairman, Division of Continuing Education, Loma Linda University School of Medicine, 1720 Brooklyn Ave., Los Angeles, California 90033, ANgelus 9-7241, Ext. 214.

PRESBYTERIAN MEDICAL CENTER

April 25-26—**Operative Urology.** Saturday-Sunday. 12 hours. $25.

For information contact: Arthur Selzer, M.D., chairman, Education Committee, Presbyterian Medical Center, Clay and Webster streets, San Francisco 15. WEst 1-8000.

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*Fee to be announced.

UNIVERSITY OF CALIFORNIA, SAN FRANCISCO

March 21-May 5—**Psychiatric Management in General Practice.** Sequoia Hospital, Redwood City. Tuesday evenings. 12 hours. $15.

April 2-May 7—**Psychiatry for General Practice.** Stockton State Hospital. Thursday evenings. 12 hours. $10.

April 18-19 — **Gonioscopy.** One-day course. Saturday or Sunday. 6 hours. $25.

April 25-26—**The Mentally Retarded, The Community and the Hospital.** Sonoma State Hospital. Saturday-Sunday. 10 hours. $10.

April 30-May 2—**Ear, Nose and Throat.** Thursday-Saturday. 20 hours. $60.

May 1-2 — **Pediatric Emergencies.** Friday-Saturday. 17 hours. $50.

May 22-23—**Diseases of Muscle.** Friday-Saturday. 6 hours. $40.

May 24—**Heart Association of the Redwood Empire.** Brook Trails Lodge, Willits. Sunday. 8 hours. $20.

June 19-20—**Epilepsy—United Cerebral Palsy.** Friday-Saturday.

Continuously—Courses presented by special arrangement: Principles and Clinical Uses of Radioisotopes (full time, one to three months).

For information on courses for physicians or ancillary personnel, contact: Seymour M. Farber, M.D., Assistant Dean, Dept. of Continuing Education in Medicine and Health Sciences, University of California Medical Center, Room 565-U, San Francisco 22, MOntrose 4-3600, Ext. 179.

UNIVERSITY OF SOUTHERN CALIFORNIA

April 1-May 20 — **Advances in Cardiology.** Huntington Memorial Hospital, 100 Congress Street, Pasadena. Wednesday evenings. 2 hours. $37.50.

April 9-June 11—**Ward Walks in Rare Diseases.** Thursdays. 2 hours weekly. $100.

April 22-May 13—**Advanced Funduscopy.** Los Angeles County Hospital—Outpatient Building, 5th Floor, 1175 Cummings Street, Los Angeles. Wednesday evenings. 2 hours. $37.50.

May 8-10—**Spatial Electrocardiography. A Vector Approach to the Electrocardiogram.** Hotel Riviera, Palm Springs. Friday-Sunday. 13 hours. $50.

May 31-June 30—**Third Annual Medical Tours of Europe.** $250.

June 29-July 1—**Treatment of Fractures.** Los Angeles County Hospital, 1200 North State Street, Los Angeles. Wednesday-Friday. 8 hours. $75.

Aug. 1-12—**Seventh Annual Postgraduate Refresher Course in Hawaii.** $100.

Continuously—**Basic Home Course in Electrocardiography.** One year postgraduate series, ECG interpretation by mail. Fifty-two issues $100. Physicians may register at any time.

Continuously—**Advanced Home Course in Electrocardiography.** One year postgraduate series, ECG interpretation by mail. Fifty-two issues $85. Physicians may register at any time.

For course information contact: Phil R. Manning, M.D., Assoc. Dean, Postgraduate Division, USC School of Medicine, 2025 Zonal Ave., Los Angeles 90033, CApital 5-1511, Ext. 300.

CALIFORNIA MEDICAL ASSOCIATION

Committee on Continuing Medical Education
14th Annual Postgraduate Institutes, 1964

April 23-24—**NORTH COAST COUNTIES,** in cooperation with UCLA School of Medicine. Brooktrails, Willits. **The Human Kidney in Health and Disease.** Chairman: Patrick R. Allanson, M.D., 728 South State Street, Ukiah.

May 7-8—**SAN JOAQUIN COUNTIES,** in cooperation with Loma Linda University School of Medicine, Ahwahnee Hotel, Yosemite. **Gastroenterology.** Chairman: Leo Goodman, M.D., 1341 Wishon Avenue, Fresno.

June 25-27—**SACRAMENTO VALLEY COUNTIES,** in cooperation with USC School of Medicine. **Renal Disease.** Harvey's Wagon Wheel, Lake Tahoe. Chairman: William Tucker, M.D., 3560 "Jay" Street, Sacramento.

For information regarding Postgraduate Institutes and Circuit Courses, contact: Continuing Medical Education, California Medical Association, 693 Sutter Street, San Francisco 94102. PRospect 6-9400, Ext. 68.

TO HAVE YOUR MEETING OR PROGRAM LISTED IN CALIFORNIA MEDICINE

FILL OUT AND MAIL THIS BLANK TO THE ADDRESS GIVEN

(COPY MUST BE **RECEIVED** NOT LATER THAN THE **FIFTH OF THE MONTH PRECEDING** ISSUE)

Continuing Medical Education, California Medical Association
693 Sutter Street, San Francisco, California 94102

Name of Organization ______________________________

Meeting or Program ______________________________

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Date ______________________________ Time ______________

Place ______________________________ Fee, If Any ______________

Contact for Information: ______________________________
(give name, title, address)

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THE PHYSICIAN'S *Bookshelf*

STEREOENCEPHALOTOMY—Part II, Clinical and Physiological Applications (Monographs in Biology and Medicine—Volume II, edited by E. A. Spiegel)—E. A. Spiegel, M.D., Professor of Experimental and Applied Neurology and Head of the Department of Experimental Neurology, and H. T. Wycis, M.D., F.A.C.S., Clinical Professor of Neurosurgery, both of Temple University School of Medicine and Hospital, Philadelphia. Grune and Stratton, Inc., 381 Park Avenue South, New York 16, 1962. 504 pages, (no price quoted).

This second volume concerns the clinical and physiological applications of stereoencephalotomy. It is a monumental work which summarizes some fourteen years of careful investigation of all types of stereotaxic surgery. The authors have compiled a most complete record of their results of therapy lesions of the thalamus and basal ganglia as well as pain and several types of space-occupying intracranial tumors. Although the number of cases in each category is not large enough to be of statistical value, the material is presented in great detail and the conclusions drawn seem to be based upon a truly scientific analysis without attempting to further any one specific method or procedure.

The monograph is to be highly recommended as a source of reference but is much too detailed to be considered as a text for anyone not already well founded in the anatomical and physiological aspects of the subject. I was much impressed by the vast amount of information contained in this work which reflects the years of basic research on this subject by the authors.

Stereotaxic surgery has come into its own during the past few years as a result of the outstanding therapeutic effect in Parkinsonism but the method is being rapidly expanded and, in the future, will undoubtedly supplant many of the present day surgical operations. It is possible that in the future almost all neurosurgical procedures will be done using some form of stereotaxic operation.

C. Hunter Shelden, M.D.

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ATLAS OF PLASTIC SURGERY—Second Edition, revised and enlarged—Morton I. Berson, M.D., formerly Director of the Department of Plastic and Reconstructive Surgery, The Downtown Hospital and Pan-American Clinic, New York City, and Plastic Surgery Staff, Manhattan General Hospital. Grune & Stratton, Inc., 381 Park Avenue South, New York 16, N.Y., 1963. 336 pages, $23.00.

This attractive hard-bound 336-page book is profusely illustrated with both line drawings and half-tone drawings which are of good quality. Photographic illustrations are less distinct and in some cases the post-operative photos appear definitely fuzzy, or taken from a different angle or with different lighting from the primary photos.

The author, Morton I. Berson, M.D., does not list in his qualifications certification by any specialty board nor membership in any of the more widely recognized plastic surgical societies, nor is there any mention of any connection with any medical school teaching program. In the preface to the book, Dr. Berson states that this compendium is based largely on thirty years of personal experience. The book would seem to be directed toward "both general surgeons and specialists encountering problems of plastic repair in their practice." Dr. Berson further states that "to this end they will need authoritative advice, based on experience and indoctrination into the meticulous and precise surgical approaches and on insight into the artistic requirements. This book attempts to fill these needs."

To the qualified plastic surgeon, this book gives nothing in the way of significant help since the content of the book in no way exceeds the most elementary plastic surgical training. For the general surgeon to attempt to adopt the procedures based only on the techniques and cases illustrated would seem foolhardy. To the general practitioner or nonsurgical specialist, the book would offer little except illustration of the fact that such procedures are done by plastic surgeons. The book would be of little or no significant value to a medical student, and one begins to wonder then, to whom this book is directed.

The Atlas is filled with examples of out-moded procedures —some of which have never worked, such as the "sliding flap" for webbed fingers, and such antiquated and ill-advised procedures as pocket-grafts covering the hand with pedicle skin. Six pages are devoted to illustrating reconstruction of an index finger, which any qualified hand surgeon would say was contraindicated in the first place. Another group of illustrations are devoted to removal of a lipoma of a thumb.

The "Instrumentation for Rhinoplasty," for example, as illustrated, takes up several pages and includes many instruments of doubtful usefulness, and is unnecessarily complicated. A technique is discussed for total rhinoplasty with reconstruction by pedicle grafts, but significantly no case material is presented illustrating these procedures. The technique of otoplasty is unimaginative and is of the type that is felt to give inferior results by destroying normal ear architecture. This would be evident in lateral views of these ears, but these views have not been shown in the text. The inclusion of a page or two describing corneal transplants again makes one wonder to whom this book is directed. Certainly no one but a highly qualified ophthalmologist with special training in corneal transplantation should perform such surgery. It is far outside the scope of normal plastic surgery. Illustrations of rhinoplasties and face-lift techniques are not appreciably different from routine operations performed by most plastic surgeons.

In summary, it seems that this atlas is of doubtful value as a meaningful addition to the plastic surgical literature. Its purchase is recommended by those who are particularly interested in the work of Dr. Berson.

LOGAN CLENDENING LECTURES ON THE HISTORY AND PHILOSOPHY OF MEDICINE—Tenth Series—The Transitions from Ancient Egyptian to Greek Medicine—J. B. deC. M. Saunders, M.D., University of Kansas Press, Lawrence, Kansas, 1963. 40 pages, $2.00.

This is a very well written essay which calls attention to the many and significant contributions of the Egyptians to Greek medicine. Little emphasis has been placed upon this in the past. Dr. Saunders marshals his facts exceedingly well and presents them in a very entertaining manner. He leaves no room for doubting the very substantial contributions of the Egyptians in theoretical and basic medical fields as well as in the empirical areas. This essay will afford good reading to anyone interested in the history of medicine.

John S. Lawrence, M.D.

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READINGS IN PHARMACOLOGY—B. Holmstedt and G. Liljestrand. Pergamon Press, New York, 1963. $7.50.

This is a most enjoyable and stimulating book. In it the heroes of pharmacology from the unknown Egyptians of the Ebers papyrus to the modern Domagk and Dale are remembered. In an almost conversational manner the brief life of the man and his setting are given, and then excerpts from important papers. Some of these latter make one's spine tingle—like the discovery of the humeral transmission of nervous impulses by Loewi, or the crystallization of insulin by Abel. All interested in the development of drugs will find pleasant reading in this book compiled by two Swedish masters of the field.

Windsor Cutting, M.D.

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PRINCIPLES OF NEUROLOGICAL SURGERY—5th Edition— Loyal Davis, M.D., M.S., Ph.D., D.Sc., (Hon.), F.A.C.S., F.R.C.S. (England, Hon.) F.R.C.S. (Edinburgh, Hon.), Professor of Surgery, Northwestern University Medical School; and Richard A. Davis, M.D., M.S., F.A.C.S., Assistant Professor of Neurological Surgery, School of Medicine, University of Pennsylvania. W. B. Saunders Company, West Washington Square, Philadelphia 5, Pa., 1963. 608 pages, $15.00.

Although it is somewhat of a chore to review a book even if it concerns a subject in which one is particularly interested, the textbook by Dr. Loyal Davis and Dr. Richard Davis proved to be most interesting as well as instructive. It is written in a style that allows easy reading and at the same time, contains a wealth of clinical information.

Seldom does a textbook appear which so adequately fulfills the need of both the established neurosurgeon and the young man just beginning his training period. For the already established neurosurgeon it affords an excellent means of reviewing the various new procedures which have been developed as well as the pathological and physiological basis upon which the advances were made.

The most significant aspect of this book is its value to the young neurosurgeon still in training. It makes available a single source of reference in which he can read a summary of all worthwhile information concerning standard neurosurgical procedures and the basic information he needs to know with regard to the anatomy and physiology of the lesions for which these procedures were developed. This volume should prove a most valuable source of basic information so necessary as a foundation. Once this is established, and only then, is he in a position to cope intelligently with the vast amount of current literature.

I can wholeheartedly recommend PRINCIPLES OF NEUROLOGICAL SURGERY to all young men in training and I feel sure that most neurosurgeons would profit by its reading. For all others it will serve as an excellent source of reference.

C. Hunter Shelden, M.D.

ELEMENTARY MEDICAL STATISTICS—2nd Edition—Donald Mainland, M.B., Ch.B., D.Sc., F.R.S.E., F.R.S.C., F.A.S.A., Professor of Medical Statistics, New York University Medical Center. W. B. Saunders Company, West Washington Square, Philadelphia 5, Pa., 1963. 381 pages, $9.00.

The author has long been a leading statistical consultant in medical research, and this fact shows well in this important book. The emphasis of the book is on comparison of statistical principles, rather than on the presentation of statistical methods and formulas. (Indeed, in the first two hundred pages not one formula is to be found.) The author gives his aim in the preface in these words: "The emphasis in these discussions is upon statistical thinking rather than arithmetic, and an attempt is made to elucidate statistical jargon". The reader will find that no knowledge of mathematics beyond arithmetic is necessary.

The book consists of sixteen chapters, the first ten of which deal with general issues of quantitative research, and bear such titles as "Questions for use in planning investigations and in evaluating reports", "Interpretation after an experiment", "Lost information". The last six chapters treat painlessly the most commonly useful statistical techniques. There is considerable emphasis on modern methods usually called "nonparametric"; Mainland makes clear that one of their primary virtues is their understandability in comparison with older and more standard devices.

The reader will find an honest correspondence between statistical arguments and medical examples. He will also find the text rather readable despite the fact that difficult ideas are grappled with when necessary. Because statistical methodology involves many substantial concepts, this, or any good statistics book, cannot be read like a short story, but the non-mathematical medical reader can hardly expect to find a treatment which will more surely repay his effort than this book, if he is willing, indeed, to invest a fair number of hours of hard work to learn something about statistics in medical investigation.

Lincoln E. Moses, Ph.D.

* * *

THE THYROID AND ITS DISEASES—Third Edition—James Howard Means, M.D., Jackson Professor of Medicine, Emeritus and Chief of Medical Services Emeritus; Leslie J. DeGroot, M.D., Associate in Medicine; and John B. Stanbury, M.D., Associate Clinical Professor of Medicine,; all of Harvard Medical School and Medical Service and Thyroid Clinic, Massachusetts General Hospital. McGraw-Hill Book Company, Inc. (The Blakiston Division), New York, 1963. 618 pages, $15.95.

It is with great personal satisfaction that the reviewer welcomes the Third Edition of Means' work on The Thyroid and Its Diseases. This text represents the clinical observations and thoughts of the group of men who have run the Thyroid Clinic of the Massachusetts General Hospital since about 1913. It is a clinical work with a review of the basic biochemistry and physiology of the thyroid gland and its hormones including a chapter on the surgery of the thyroid by Oliver Cope, who is professor of surgery at the Harvard Medical School and contains pathological studies by Professor Austin L. Vickery of the Department of Pathology of the Harvard Medical School. The Third Edition combines the work of Leslie J. DeGroot, associate in medicine of the Harvard Medical School and the present chief of the clinic, Dr. John B. Stanbury. The work is scholarly and backed up by the personal investigations of the authorities as well as an excellent review of the current research literature on thyroid hormone metabolism. The references are current and one has the very definite feeling that the text is immediately up to date. For the twenty chapters into which the book is divided there are 1531 references. The book has a strong clinical function in that problems of diagnosis and treatment are stressed throughout. The formation of goiter in which field Dr. Stanbury has done important work, particularly in the endemic goiter areas of South America and a good discussion of chronic thyroiditis and its immunological aspects are included as well as a very complete review of the diagnosis and treatment of hyperthyroidism in all its forms and the various forms of hypothyroidism. One can unreservedly recommend this authoritative work as one of the best recent contributions in the medical literature of the thyroid gland.

Paul Starr, M.D.

* * *

SYNOPSIS OF OPHTHALMOLOGY — Second Edition—William H. Havener, B.A., M.D., M.S. (Ophth.), Professor, Department of Ophthalmology, Ohio State University, Columbus, Ohio; Member, Attending Staff, University Hospital, Columbus, Ohio; Member, Consulting Staff, Children's Hospital and Mt. Carmel Hospital, Columbus, Ohio. The C. V. Mosby Company, St. Louis, Mo., 1963. 395 pages, with 249 illustrations, $7.85.

The second edition is a definite improvement over the first. The arrangement of the contents makes rapid location of interesting data unique.

Chapter II—The diagnosis and management of eye injuries is especially instructive as it increases the reader's awareness of the potential damage from the seemingly minor eye injury.

Chapter III—The diagnosis and management of the red eye is well done. A composite picture of the red eye and the multitude of causative factors to be considered is presented.

Chapter XV—Ocular therapy is brief and concise.

The synopsis is well arranged and well illustrated. It is very readable. A busy practitioner and the trainee in ophthalmology should find this book very helpful.

Alfred R. Robbins, M.D.

* * *

EMERGENCIES IN MEDICAL PRACTICE — Seventh Edition—edited by C. Allan Birch, M.D., F.R.C.P., Physician, Chase Farm Hospital, Enfield, Middlesex. The Williams & Wilkins Company, Baltimore 2, Md., 1963. 784 pages, 123 illustrations, 13 in color, $9.75.

During the 19th century in the United States there appeared a medical publication which found wide popular acceptance and gained a sort of notoriety as the companion piece to McGuffey's Reader. Entitled, *Family Medical Advisor*, it provided medical information — often the only medical information — for isolated rural families. It was comprehensive; there was something for everybody, a potion or poultice for whatever the ailment, and what it lacked in depth was more than made up by breadth.

There comes now a kind of Family Medical Advisor aimed primarily at doctors but with something for everybody be he specialist, general practitioner, medical student, resident, or hospital administrator. Throughout the book, emphasis is on the practical; what to think, what to do, even what questions to ask. The opening chapter deals with what might be contained in an emergency bag, listing appropriate drugs and appliances and puckishly noting that "experience and skill are at least as important as the contents of the bag." There follows a well-balanced chapter on Acute Poisoning which in turn is followed by a hair-curling chapter on The Hazards Of Medical Practice. The accidents which are casually mentioned are enough to make one reach for the bowl of tranquilizers. For instance, . . . "collapse has followed a barium enema when . . . some barium has entered a vein and reached the lungs," or, "If the pump of (an) aspirator is wrongly connected it fills the bottle with air under pressure . . . (which) may then be introduced into the chest with immediate collapse of the patient from an acute pneumothorax," or, "Don't put dry ice in (ice bags) . . . it will cause necrosis of tissues," or, "Paraldehyde has caused serious inflammation when given . . . because it has been slowly converted in the bottle into acetic acid."

Succeeding chapters include acute abdominal catastrophes, emergencies in obstetrics and gynecology, ENT, heart, vascular system, blood diseases, neurology, psychiatry, endocrinology, renal diseases, pediatrics, infectious fevers, tropical and industrial medicine, ophthalmology, anesthesiology, dermatology, bites and stings and emergencies at sea and in the air. A separate chapter deals with Medical-Legal and Other Non-Clinical Emergencies. It is a smorgasbord; one can pick and choose to individual taste.

Thoroughness is remarkable. It includes such nonemergency topics as "How to Bequeath a Body for Dissection," "What to Do in a Case of Alleged Rape," "What Should the Doctor Say in an Emergency," "What to Tell the Patient Who Has a Fatal Disease," "On What to Do When There Is Little to Be Done."

The minor maladies which are often neglected or superficially treated in American texts are given thorough attention. For instance, the discussion on hiccup begins with the homely observation that a bout of sneezing may cure hiccup and hence snuff can be prescribed. There follows a complete list of therapeutic maneuvers beginning with pulling of the tongue and ending with phrenic nerve crush. There is no attempt to buttress statements with a bibliography; the authors speak with a clear authority of long clinical experience.

The conventional American, feeling inferior, uncouth, untutored and unlettered, has come to expect from his British cousin a certain precision of language, elegance of statement and subtle wit synthesized into deft understatement. There are many such examples in this book; a selection from the preface is "Just what conditions might be included in (a medical emergency) is a matter of opinion and the doctor's list . . . will be shorter than the patient's . . ." Another example from the discussion of Seasickness; "Sufferers react in different ways; some like to go on deck, while others will not leave their cabins; some take glucose, others champagne . . ."

The book gives the delightful feeling that England is a rather small place and hence it is important to include telephone numbers so that the reader may have at hand not only medical advice but the numbers of experts or services to call for assistance. The appendices list a wide range of services and experts by name, institution, address and telephone number. These include government health departments, biologicals, respiratory units, reference centers for hemophilia, transfusion centers, artificial kidney units, corneal grafting units, poison information and volunteer emergencies services.

Tidbits are frequent; for instance, the National Health Service is included in a paragraph advising a doctor in the matter of charging fees at sea; to wit, National Health Service benefits extend to ports of Great Britain and North Ireland but do not apply at sea. Another item; "Beware of giving a certificate of 'food poisoning' until proved. It may be wanted simply to blackmail a restaurant." And, when discussing electrocution, "If found in contact with or near a high voltage cable or rail call the engineer; otherwise there may be two victims instead of one."

However, the minutiae of practical detail is extended to the extreme; for instance, should the practitioner be faced with a barbiturate poisoning and is in the position of considering dialysis, he is advised to, "Ring up the unit and give the details."

To this reviewer, there are two disturbing assumptions underlying the vigorous emphasis of practical bedside medicine. The first assumption is that the authors believe their readers to have little if any practical knowledge of bedside medicine. The authors offer techniques for doing many of the small tasks which confront doctors. However, satisfactory solutions to these tasks exist in all medical communities and are passed from one generation of doctors to the next almost by osmosis. To devote so much attention to such minutiae implies a low level of knowledge in the reader; surely if the reader needs such practical knowledge, his technical education has been at fault (the fault could lie with the reader's osmotic mechanism) and it is doubtful whether he is prepared to benefit from the more sophisticated chapters. On the other hand, the truly knowledgeable doctor will find little that is attractive in the practical details and may well be offended by the elementary discussion.

The second assumption is that emergencies are first treated in the home, the industrial plant or at the roadside and once the patient is en route to the hospital, the practioner's responsibilities end. So it may be in England with the rigid exclusion of general practitioners from hospitals, but for American doctors who carry the responsibility into the hospital, a more comprehensive approach is needed.

CHESTER HERROD, M.D.

* * *

PREVENTIVE MEDICINE AND PUBLIC HEALTH — Third Edition—Wilson G. Smillie, A.B., M.D., D.P.H., Sc. D. (Hon.), Professor Emeritus of Public Health and Preventive Medicine, and Edwin D. Kilbourne, B.A., M.D., Professor of Public Health, Cornell University Medical College, New York, N.Y. The Macmillan Company, Macmillan New York, London, 1963. 602 pages, $9.75. (The Macmillan Company, 60 Fifth Ave., New York 11).

One looks hopefully for a good modern work on Preventive Medicine and Public Health. Rapid advances in medical science have radically altered the opportunities for preventive medicine in private practice and for effective measures to improve health through the activities of public agencies. Simultaneously, technological changes and rapid population growth have aggravated many problems, such as air pollution, and brought new emphasis to them. Physicians need a ready source of information in all these fields. Unfortunately, the revised edition of Smillie's well-known book doesn't fill the bill. Its main fault is superficial treatment of too many topics; for example, to give two and a half pages to health education is either too little or too much. Similarly, a single page on rabies gives neither background knowledge of the epidemiology of the disease nor practical information on the management of dog bite. A major flaw is the dearth of modern references, and especially of references in which the reader may find a fuller treatment of a particular problem.

In comparison with the second edition, the text has been reduced by ten per cent or more, allowing much more attractive typography in a book of the same size. Dr. Edwin Kilbourne appears as a co-author, having prepared the chapters on infectious disease, on air pollution and on medical genetics. The chapter on Statistics has been done by Irwin Bross. Several sections, including the hygiene of housing and sanitation of swimming pools have been dropped, while the material on air pollution and on occupational health has been expanded. And the material on human heredity and disease is entirely new.

A conscientious effort has been made to bring the book up-to-date, and the failure to succeed in full does not invalidate the advances made. Something must be said in favor of the one-man or jointly-authored book as compared to the edited book by many contributors, which latter is so frequently lacking in organization and rarely has uniformity of style.

A significant error must be noted: several compounds are erroneously mentioned as causes of bladder cancer, while the one proved agent, beta naphthylanine, is misnamed.

R. R. BEARD, M.D.

DISEASES OF THE EAR—Stuart R. Mawson, M.B. (Camb.), F.R.C.S., D.L.O. (Lond.), Surgeon, Ear, Nose and Throat Department, King's College Hospital, (including Belgrave Hospital for Children), London; Consultant Ear, Nose and Throat Surgeon, Queen Mary's Hospital (Roehampton) London. The Williams & Wilkins Co., Baltimore 2, Md., 1963. 559 pages, $19.00.

Mr. Mawson has accomplished his self-appointed task of bringing otologic literature up to date admirably in writing this book. The text is excellent and includes all the modern concepts, both in this country and abroad, concerning the anatomy, physiology, pathology and treatment of otologic disease. The illustrations are by a colleague, L. Ludman, F.R.C.S., and are not those of a professional medical illustrator. As a consequence, they might be somewhat vague to an individual not completely acquainted with the anatomy of the ear.

The book is directed not only to otologists but primarily to interns, residents, general practitioners, pediatricians and other disciplines of medicine who might be interested in recent otologic thinking. Some of the text on anatomy and physiology is somewhat confusing to the reviewer as the metaphors used contain terms of mechanical objects and various vegetables not commonly used in this country. Also some of the medications and drugs discussed in the book have different names on this continent.

There are certain statements made in the book as fact that some otologists in this country might take exception to. The author placed considerable reliance on whisper and spoken voice tests without the aid of electrical monitering: these tests have been largely abandoned in this country. He states that osteogenesis imperfecta and otosclerosis are associated. It is felt by some that the stapes fixation occurring in osteogenesis imperfecta is not due to the same pathological process that occurs in otosclerosis. The statement is made that surgical decompression of the petrous pyramid portion of the facial nerve and geniculate ganglion are not possible in cases of Ramsey-Hunt syndrome. Recent advances in this country make this statement void.

The author states that far-advanced otosclerosis cases, where the bone conduction cannot be measured due to the limitation of the output of the bone conduction oscillator, are not suitable candidates for surgery. We disagree with this opinion, as surgery for these individuals may mean the difference between complete deafness and hearing with a hearing aid, although the chances of a successful surgical result are not as good as those for individuals with a mild or moderate sensory-neural component to their hearing impairment. It was also stated that 4 per cent of those individuals undergoing stapes surgery develop a total loss of hearing. These statistics are not borne out by those reported by most investigators in this country.

The author states that the most frequent cause of vertigo is Meniere's disease—that is the symptom complex consisting of recurrent episodes of vertigo accompanied by transitory, but gradually progressive, hearing impairment, tinnitus and the sense of pressure in the ears. Most otologists in this country report that most of the cases of vertigo seen are due to vestibular neuronitis or vascular insufficiency to the inner ear. Only a small number of these individuals with vertigo have true Meniere's disease.

Mr. Mawson says that the caloric response is found to be decreased invariably in the case of an acoustic neuroma. We submit that this is true in advanced cases, but if the diagnosis can be made prior to the onset of vestibular hypofunction, then it is possible to remove the neuroma without sacrificing the facial nerve, a complication occurring in all of such cases, according to the author. In this connection, it is stated that once a diagnosis of an acoustic neuroma is made, the patient should be transferred to the neurosurgeon. Recent advances in this country indicate that this is not necessarily true due to the development of translabyrinthine techniques in removing such tumors and the preservation of the function of the VIIth nerve.

The number of divergent opinions in the preceding paragraphs is certainly meager and is especially significant when one considers the distance separating England from this country, and more important, the time lag that occurs from the time of the composition of the text to the time of review. I can, therefore, recommend this book as the latest comprehensive review of anatomy, physiology and treatment of otologic problems.

F. H. Linthicum, Jr., M.D.

* * *

GASTRIC SURGERY—Errors, Safeguards, and Management of Malfunction Syndromes—Moses E. Steinberg, M.S., M.D., Research Associate in Physiology, University of Oregon Medical School; Attending Surgeon, Emanuel Hospital; formerly Senior on the Surgical Service of U. S. Public Health Hospital and Consultant Surgeon to the Veterans Bureau, Portland, Oregon. Appleton-Century-Crofts, Division of Meredith Publishing Company, 440 Park Avenue South, New York, N. Y., 1963. 342 pages, $12.95.

This excellent monograph describes the development of gastric surgery for duodenal and gastric ulcer, the nature and causes of the malfunction complex of the operated stomach, the author's method of gastroenteric anastomosis both as primary and remedial operation for ulcer, and lastly an evaluation of surgical procedures for benign ulcer disease.

The great merit of the book lies in its clear expression of the views and experiences of a lifelong student, researcher, and operating surgeon. The few well chosen epigrams further reveal the author as a man of broad culture. Any minor defects are erased by the overall excellence of the book. It is not primarily a reference book but will find wide use as such in the limited field discussed. The author makes no claim to be all inclusive, but in any discussion of benign ulcer the names of Wangensteen and Connell should be included in the bibliography, the latter not because of the stitch that bears his name but rather because of his early emphasis on the need for excising much of the acid bearing area of the stomach. Although Connell's method of fundusectomy was not accepted, the author pictures a partial fundusectomy with his own type of re-anastomosis (page 196).

The core of the author's work, to which his broad knowledge of the history of gastric surgery, experimental work, and his surgical experience lead him, is his own method of gastroenteric anastomosis following resection in which a jejunal pouch or substitute reservoir is formed with a relatively small gastrojejunal stoma and gastrojejunal "valve" or spur. In his hands the operation has been admirably successful both as a primary procedure and as a secondary one for malfunction. He discusses his own relatively few failures in both instances with refreshing candor. In the reviewer's opinion Steinberg's operation will not and should not be generally adopted as a primary procedure and Steinberg does not urge it as such for the general surgeon. As a secondary operation for postoperative malfunction, it will prove useful at times for the experienced gastric surgeon.

An unusual feature in such a work is the presentation of 61 case histories. The essential points are briefly stated with frequent pertinent descriptions of symptoms in the patient's own words. The clarity and brevity of these reports is obviously the result of countless hours of thoughtful interviews.

The book is recommended to surgical residents and established surgeons alike for its thought provoking contents. The historical section alone with the translations of Billroth's, Pean's, and Wolfler's original papers should fascinate every one whose curiosity extends even slightly beyond the affairs of the moment.

Gunther W. Nagel, M.D.

* * *

A DOZEN DOCTORS—Autobiographic Sketches—Edited by Dwight J. Ingle. The University of Chicago Press, Chicago & London, 1963. 287 pages, $5.50.

This is a collection of twelve autobiographical sketches by great medical teachers. Originally published in the journal "Perspectives in Biology and Medicine" they have been collected in one volume by Dwight Ingle. They are highlights of contemporary medical history.

Five of the authors became Nobel laureates. Sir Henry Dale and Otto Loewe received their prize together for their discoveries relating to the chemical transmission of nerve impulses. Sir Henry is the acknowledged dean of experimental medicine in Great Britain. His autobiography traces his work through his various appointments and interests. Otto Loewe was a research pharmacologist and received his early training in Europe and worked there until World War II forced him to relocate at the New York University College of Medicine.

Another Nobel prize winner, for discoveries relating to the chemical transmission of nerve impulses, was W. R. Hess who was also interested in the biological foundations of psychology and was Chairman of the Physiology Department at the University of Zurich.

In 1943 George von Hevesy received the Nobel Prize for his work on the use of isotopes as tracer elements in research on chemical processes. He was a physicist and the excitement of the discovery of isotopes is fascinating as he describes step-by-step the progression of his studies.

George Whipple shared his award with two others in 1944 for their discoveries concerning liver therapy in the anemias. He also helped to organize and establish the University of Rochester School of Medicine and Dentistry in 1921 and has been associated with it since that time.

Among the other authors are Frank Hartman, a physiologist interested in the study of the adrenals; Esmond Long who became interested in tuberculosis when he contracted it as a young man; and Russell Wilder from the Mayo Clinic whose particular forte was diabetes.

Judson Herrick traces his career from his early interest in zoology and comparative neurology to his post as Professor of Neurology at the University of Chicago. He wrote extensively on psychology and philosophy. Leo Loeb directed his talents to the study of the growth processes of tumors and the relationship of sex hormones to carcinoma.

Irvine McQuarrie was an outstanding pediatrician, administrator, and teacher. James Means was Chief of Medical Services at Massachusetts General Hospital for many years. He was regarded as an able administrator, and espoused "better medical care for the American public at a price they can afford."

Great strides have been made in medical knowledge in this century because of the inspired work of many, including the twelve men covered in this volume. Some of their enthusiasm and sense of accomplishment is evident in these pages. They were all in turn influenced by great teachers and they have kept the chain intact by stimulating their own colleagues and pupils.

The essays are enlivened by personal recollections and anecdotes, revealing different sides of their personalities.

A fine addition to medical history and to the libraries of all research fellows and teachers.

M. E. Mottram, M.D.

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Research in the Service of Medicine

Flaking Paint Key Factor In Child Lead Poisonings

The presence of flaking paint where it can be eaten by children is the essential factor in lead poisonings, a study showed.

A Cleveland medical team analyzed information obtained on 906 children in a door-to-door survey to determine what environmental factors were involved in lead poisonings.

Writing in the March 7 *Journal of the American Medical Association*, the researchers said youngsters normally explore their environment by placing many nonfood items in their mouths.

Factors which might influence this habit are limited parental supervision of the child, previously existing brain damage in the child, and the parents' lack of knowledge of the consequences of ingestion of nonfood items, they commented.

"The essential factor, however, would be the ready availability of material containing lead derived from paint which can be ingested by the exploring young child," they concluded.

Authors of the report are Robert C. Griggs, M.D., Irving Sunshine, Ph.D., Vaun A. Newill, M.D., Burritt W. Newton, M.D., Stuart Buchanan, M.D., and Cleo A. Rasch, M.D.

The neighborhood studied during the summers of 1959 and 1960 consisted of three areas with old housing and one with relatively new housing as represented by a housing project.

Of 906 children, aged 1 to 5, urinalysis revealed an abnormal amount of lead in 219, or 24 per cent. However, an abnormal presence of lead was found in only 3 per cent in children living in the newer housing compared with 25 to 37 per cent in the old housing areas.

Among 549 children, aged 12 to 35 months living in areas of poorly maintained housing, evidence of increased exposure to lead was found in 28 per cent and a diagnosis of lead intoxication was made in 6 per cent, the study showed. Among 119 children in the same age range living in the newer housing project, only 3 per cent had abnormal lead findings and none could be classified as having lead intoxication.

"The present study, carried out in this 'lead belt,' demonstrates that a large number of children with evidence of increased absorption of lead can be found in such an area, while children living only a few blocks away, in families with similar socioeconomic backgrounds but residing in relatively new and adequately maintained housing, were not so afflicted," the group commented.

The use of lead in paint has decreased steadily since 1940, and in dwellings built in recent years the paint is less likely to contain a large amount of lead, the report pointed out.

Lead poisoning is still a common and serious disease of children, despite knowledge of both its cause and means of prevention, the authors com-

In rheumatoid arthritis..

Patient:
56-year-old
woman with
generalized
rheumatoid arthritis
of 7 years' duration.
X-ray: Skin prepared
with barium sulfate;
tube distance
36 inches,
50 ma. sec. at 40 kv.;
no screen.

mented. From 1952 through 1958, they said, about eight to nine Cleveland children were hospitalized per year for lead poisoning with a death rate of 30 per cent.

Visualizing Blood Flow Aids Lung Diagnoses

A technique for visualizing blood flow through the lungs makes possible the diagnosis of various disorders including life-threatening blood clots, said a Baltimore research team.

The radioisotope scanning technique has been used to detect alterations in blood supply to various parts of the lung resulting from disease, according to an article in the February 22 *Journal of the American Medical Association.*

Authors of the report are Henry N. Wagner Jr., M.D., David C. Sabiston Jr., M.D., Masahiro Iio, M.D., John G. McAfee, M.D., Jon K. Meyer, B.A., and James K. Langan, Johns Hopkins University School of Medicine.

Radioisotope scanning is the visualization of an internal organ by determining the distribution of a radioisotope within the body. Satisfactory visualization depends primarily on the selective deposition of gamma-emitting radioisotopes in specific organs. The technique does not require a high concentration of the radioisotope in the organ.

A device called a photoscanner is used to reproduce the radioisotope on x-ray film. An x-ray of the area under study is made at the same time and the scanning image is superimposed on the same film.

In the Johns Hopkins study, a compound containing radioactive chromium was injected into a vein of 70 patients scanned for lung ailments. Circulatory defects were observed in patients with tumors, cysts, pneumonia and other conditions.

It should be possible to use the technique in the diagnosis of blood clots in the lung's vascular network, the researchers pointed out. Recent advances in surgery have made it possible to remove these clots, they said, but broad application of the surgical approach to this medical emergency has been limited by the lack of reliable diagnostic methods.

Since the technique determines the relative perfusion of various parts of the lungs, they added, it should also aid the study of such diseases as emphysema and bronchial asthma. There is considerable evidence that in these diseases, regional defects rather than diffuse involvement of the lungs may be present, they said. The technique also could be applied as a means of measuring the circulation to various other organs such as the heart and brain, they pointed out.

The study indicates that the method is "a safe procedure," according to the *Journal* report.

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1. Boland, E. W.: J.A.M.A. 17:835 (Oct. 15) 1960. 2. Black, R. L., et al.: Arthritis and Rheumatism 3:112 (April) 1960.

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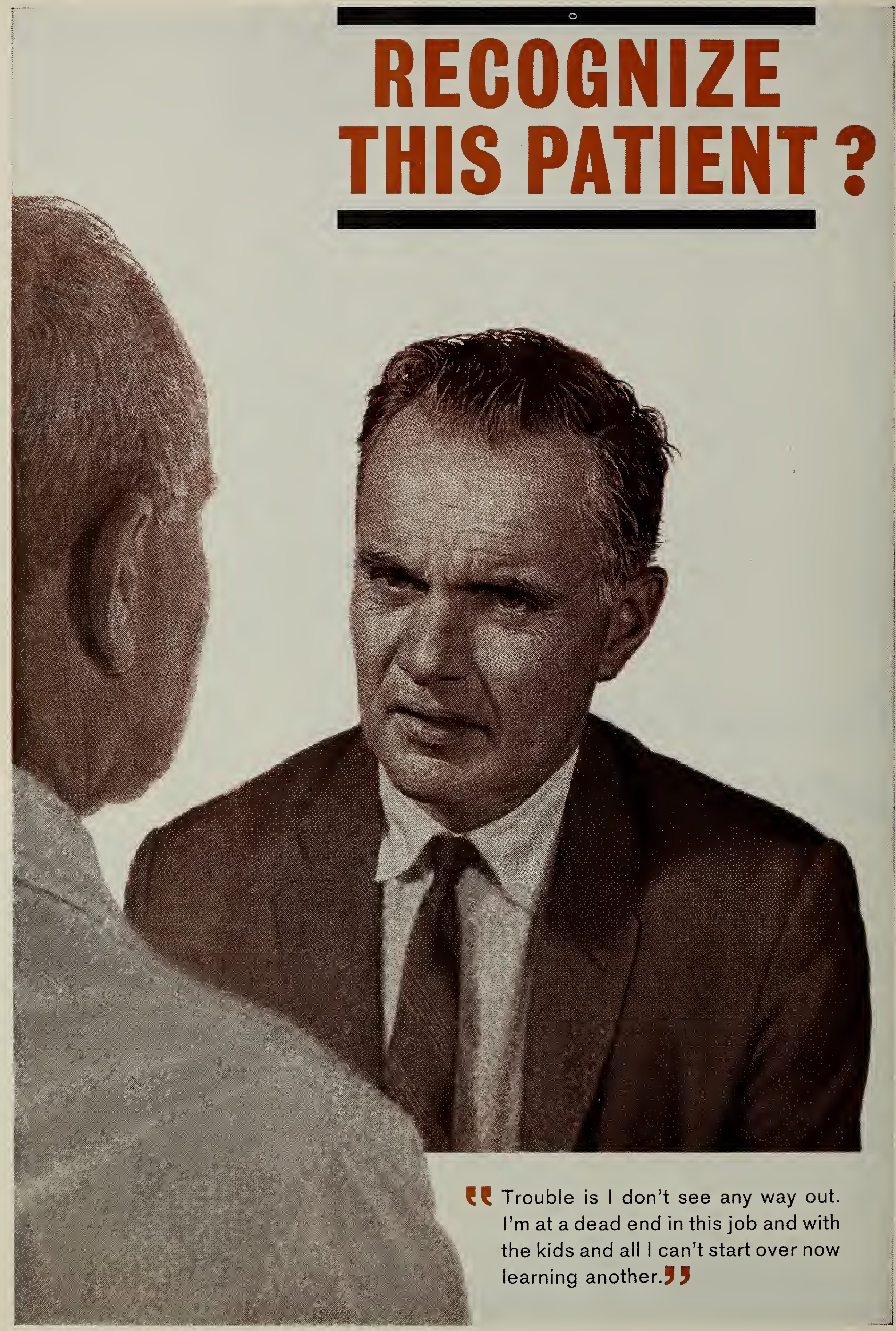
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When you recognize depression and anxiety traceable to an emotionally charged situation with no somatic disorder—start the patient on 'Deprol'.

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SUPPLIED: Light-pink, scored tablets. Bottles of 50.

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REFERENCES AND REVIEWS

Tumors of the Cheek—D. F. Weaver (3011 W. Grand Blvd., Detroit). Arch. Otolaryng. 79:229 (March) 1964.

A study of the tumors involving the cheek is discussed, and pertinent literature is reviewed. A number of such cases from the author's own experience are reported, including the repairing of a large defect of the cheek following treatment of recurring basal cell epithelioma, in which a pedicled flap from the forehead was used.

* * *

Multiple Choledochal Cysts—J. Engle and P. A. Salmon (737 E. 22nd St., Minneapolis). Arch. Surg. 88:345 (March) 1964.

Multiple choledochal cysts are described. Separate cystic dilatation of the intrahepatic biliary tree, supraduodenal portion of the common bile duct, and of the cystic duct were observed. The importance of operative cholangiography in accurate diagnosis is emphasized. The significance of multiple dilations relative to etiology of the malformation is reviewed. Arguments are presented favoring Roux-en-Y choledochal jejunostomy with excision of cyst or, if excision is not feasible, choledochocystojejunostomy.

* * *

Malformations of the Human Ear—D. Wolff (210 E. 64th St., New York). Arch. Otolaryng. 79:288 (March) 1964.

Five cases of congenital malformation of the human ear are reported. The malformations observed were: (1) unilateral atresia with normal cochlea; (2) bilateral atresia, columella-type stapedes, and aberrant eighth nerve; (3) bilateral malformed labyrinths with normal external ears; (4) one ear in a 59-year-old deaf-mute with malformed labyrinth, and (5) bilateral ears from a 28-year-old deaf-mute with normal bone structure, but no organ of Corti, and atrophy of stria vascularis.

* * *

Subclavian Steal Syndrome—J. F. Gorman, J. R. Navarre (3100 W. Central, Toledo, Ohio), and H. McLean. Arch. Surg. 88:350 (March) 1964.

Two cases of the so-called "subclavian steal" are presented, one believed secondary to embolization. The previously reported cases and recent literature are reviewed and discussed regarding this unique and correctable cause of cerebrovascular insufficiency.

* * *

Immunoelectrophoresis of the Serum of Psychotic Patients—J. D. Sapira (Univ. Pittsburgh School Med., Pittsburgh). Arch. Gen. Psychiat. 10:196 (Feb.) 1964.

Sera from hospitalized psychotic patients were examined by immunoelectrophoresis. Four out of 15 sera showed abnormalities of the β_2-macroglobulin line. Modifications of the routine method, designed to show differences in amine-oxidase and ceruloplasmin, did not distinguish between the controls and the psychotic patients.

* * *

A Synchronizer for Electrocardiograms, Phonocardiograms, and Cineangiocardiography Studies—P. Sprawls, Jr., W. M. Taylor, and B. W. Cobbs, Jr. (Emory Univ. Clin., Atlanta). Radiology 82:44 (Jan.) 1964.

A simple circuit which records simultaneous pulses on electrocardiogram and cineangiogram has been developed. It has been used to associate individual film frames with segments of the cardiac cycle and with various cardiac sounds.

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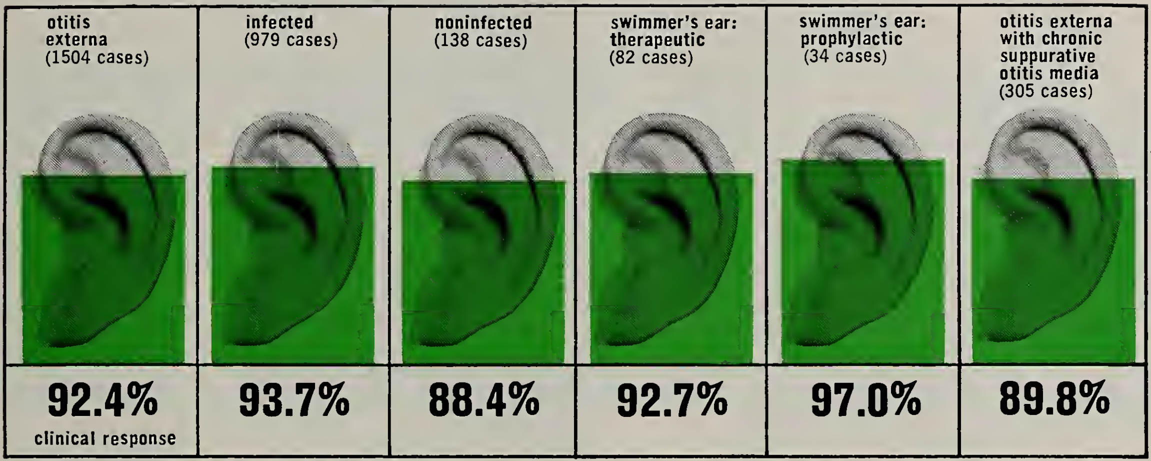

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References: 1. Jenkins, B. H.: J.A.M.A. *175*:402, 1961. 2. Case histories on file in the Medical Department of Warner-Chilcott. 3. Jenkins, B. H., and Senturia, B. H., cited by Saltzman, M.: Clin. Med. *70*:559 (Mar.) 1963. 4. Schwartz, B. S., *et al.*, cited by Saltzman, M.: *Ibid.*

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New Penicillin Used to Fight Deadly Hospital Germs

A new penicillin is capable of fighting two deadly germs which prey on debilitated, elderly patients in hospitals, a Seattle research team reported.

Drs. Kenneth N. Anderson, Roger P. Kennedy, James J. Plorde, Jonas A. Shulman, and Robert G. Petersdorf reported on the effectiveness of ampicillin (Polycillin) in the February 22 *Journal of the American Medical Association.*

The broad-spectrum penicillin was studied in 40 patients with urinary tract infections caused by four common intestinal bacteria and found effective against two, Escherichia coli and Proteus mirabilis. The pathogens are among those termed gram-negative bacteria.

"Although by no means a panacea for gram-negative infections in general, selective use of this drug in patients with infections caused by *E coli* and *P mirabilis* should result in improvement or cure of a significant number of patients," the physicians concluded.

Typically, they said, infections with gram-negative bacteria occur in the aged whose defense mechanisms are impaired and when the organisms invade the blood stream, the mortality rate is high.

"The increasing prevalence of life-threatening gram-negative infections has been well documented and these pathogens bid fair to replace the staphylococcus as the scourge of hospitalized patients," the authors commented.

The drug, taken by mouth, was administered for two weeks to the 40 patients with urinary tract infections, according to the *Journal* report. In 25 patients, the causative organisms were eliminated during therapy. In six, the initial bacterium persisted and in nine, the causative organism was replaced by one of another species.

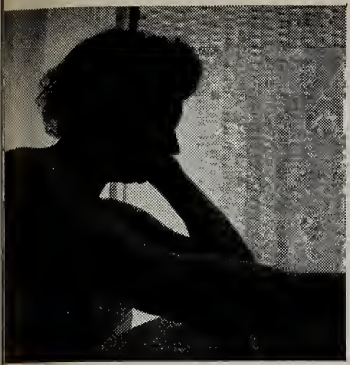
Most of the patients treated had chronic infections, the physicians pointed out. In these, they said, the causative organism was eliminated only slightly more than 50 per cent of the time and fewer than one-third remained free of infection one month after completion of therapy.

However, they explained that the inability of an agent to achieve cure in patients with chronic urinary tract infections should not be interpreted to mean that it is ineffective. The outcome of chronic infections often depends upon many factors in addition to chemotherapy, they said.

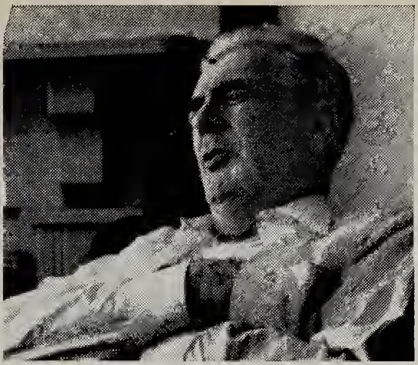
"Diarrhea occurred in six patients and was the only bothersome side effect associated with ampicillin," according to the report.

The drug showed "excellent activity" against the same two bacteria in test-tube experiments, the authors added. From all indications, they said, further trials with ampicillin are warranted.

The physicians are affiliated with the department of medicine, University of Washington School of Medicine, and King County Hospital.


The insomniac

The tense, nervous patient

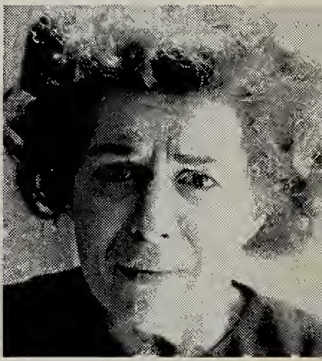

The heart-disease patient

The surgical patien

The girl with dermatosis

Tension headache

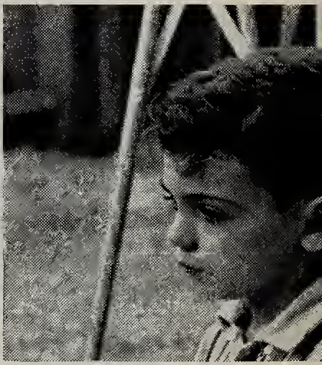
The woman in menopause

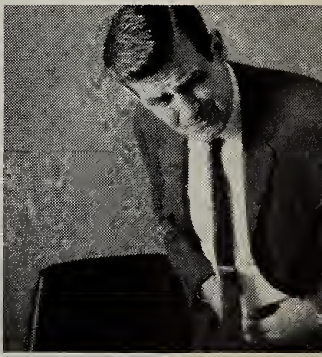

Anxious depression

Premenstrual tension

The agitated senile patient

The alcoholic


The problem child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Hospital Release Rate Good For Schizophrenics

A study of male schizophrenics treated in 35 Veterans Administration hospitals showed a "rather successful" rate of discharge, stated VA researchers.

A three-year follow-up study of 588 patients was reported by Lewis J. Sherman, Ph.D., Brockton, Mass., Edward C. Moseley, Ph.D., Perry Point, Md., Rosalie Ging, M.D., Ann Arbor, Mich., and Lawrence J. Bookbinder, Ph.D., Dearborn, Mich., in the February *Archives of General Psychiatry*, published by the American Medical Association.

An analysis of the hospital discharge dates of men who had taken part in a three-month drug therapy study in 1958 revealed that 22 per cent could be considered "unqualified successes" while 10 per cent were "clearly therapeutic failures."

Two out of three of all patients were treated and released within nine months after admission, the researchers said, while almost one-third were released within four months.

In summary, the report showed that 22 per cent left the hospital within six months, never to return; one-third were never readmitted once discharged; about three-fourths were either never readmitted or had only one or two readmissions in three years; 66 per cent were out of the hospital three years later; and 90 per cent left the hospital at one time or another.

Social and psychological variables of the patients also were analyzed as part of the study in an effort to predict the outcome of treatment on individual patients. While the predictions proved to be "better than chance" when compared with the actual results they did not produce a high level of long-range accuracy, according to the report.

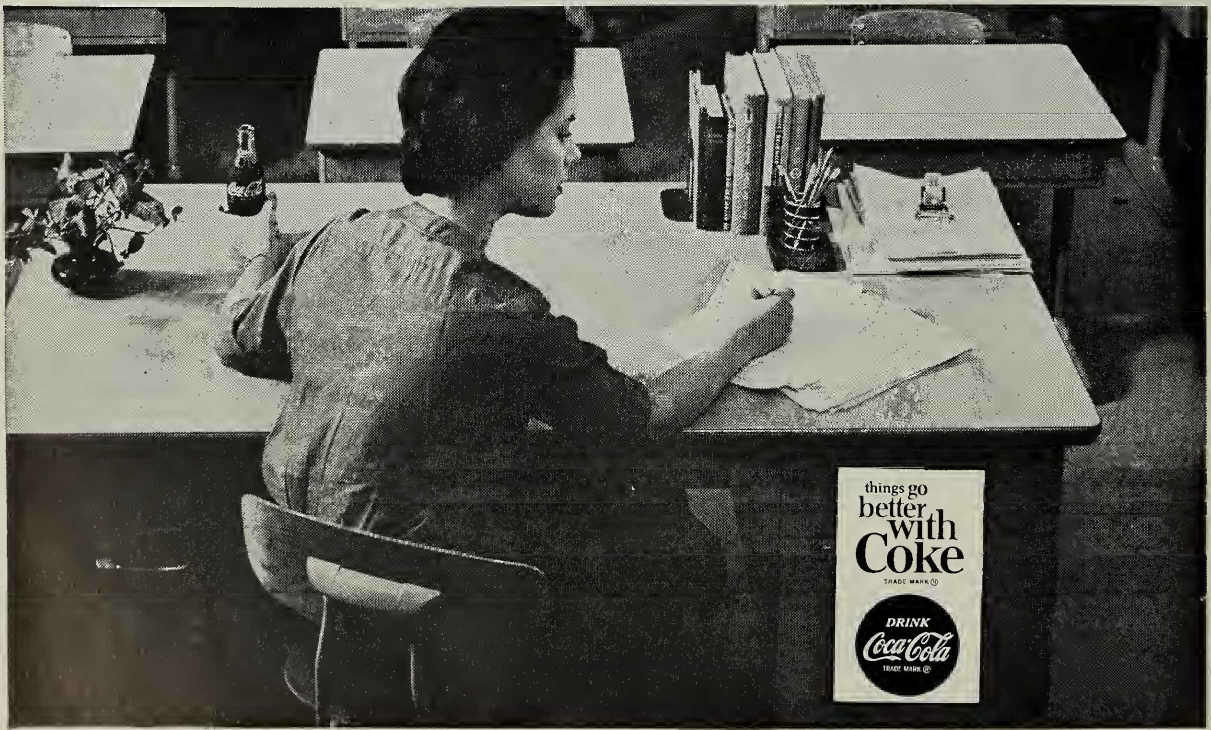
This aspect of the study, however, did confirm earlier findings that married patients have a better chance of recovery while patients who withdraw from those around them have a poorer chance.

Acidity Related to Sore Throat

Sprays, gargles and other solutions for treating sore throats should restore a slight acidity to the inflamed throat membrane, according to Dr. Noah D. Fabricant, Chicago.

Writing in the January *Archives of Otolaryngology*, published by the American Medical Association, Dr. Fabricant said studies have shown that the mucous membrane surface of the normal, healthy human throat most often is slightly acid, while the acutely inflamed throat tends to be alkaline.

On this basis, he said, a slightly acid throat is "highly desirable" for effective treatment by means of solutions applied to the throat membrane. However, he said, the acid-alkaline aspect currently is "largely ignored" in such forms of treatment.



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OBSTETRICIAN-GYNECOLOGIST—Board eligible, 31, energetic, California license—desires association with another OB GYN or medical group in Northern California. Box No. 97,795, California Medicine.

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MILL VALLEY—Addition to medical-dental building now being planned. Space for pediatrician, orthopedist, E.N.T., and dermatologist. I. N. Tucker, M.D., 25 Evergreen, Mill Valley—388-5164.

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The California Medical Association offers free placement assistance through the Physician Placement Service, 693 Sutter Street, San Francisco, California 94102. This service is for the use of all physicians seeking practice opportunities in California and for C.M.A. members who are seeking an assistant or associate. A bulletin is published every other month.

Medical Society Libraries Should Be Preserved

The traditional role of the medical society library in serving the community should be preserved in this age of increasing use of medical literature, Gertrude L. Annan, librarian of the New York Academy of Medicine, New York City, said recently.

Writing in the January 4 *Journal of the American Medical Association,* she warned that medical society libraries may disappear because of financial difficulties and mergers with larger university libraries.

When a society library is taken over by a university library, she said, a community may lose a valuable service, "a service sometimes not feasible for the university library which first must take care of its own constituency."

"The great need is for the facilities to attract and to be available to the busy practitioner, the earnest student, and the varied clientele seeking to consult medical literature," the librarian said. "The services needed are frequently different from demands of medical students, faculty, or research scientists."

A recent survey at the New York Academy of Medicine showed that about 54 per cent of the readers were directly concerned with medicine while students other than medical, dental, or nursing comprised 21 per cent and the remaining 25 per cent included diverse categories of laymen, she said.

Such laymen may find limited resources and little encouragement outside public libraries which cannot always supply the specific medical information sought by an informed public since the increasing importance of medicine in industry has mushroomed the use of medical literature, she said.

"All of these groups must be served somewhere, somehow, and the university libraries recognizably cannot be burdened with the entire load," she continued.

"Traditionally the medical society library has served the community. The loss of access to a separate library providing direct services to a local community will be, in most cases, a tragic sacrifice.

"Society libraries should have financial support from state or county and the determined support of practicing physicians.

"Today there is constant reference to continuing education for the physician, constant emphasis on education in science. And there is no assurance that the busy physician or the book-laden student will look to the medical-school library when the society library is lost to them. Encouragement to use the library should be emphasized. We need more sources, not fewer."

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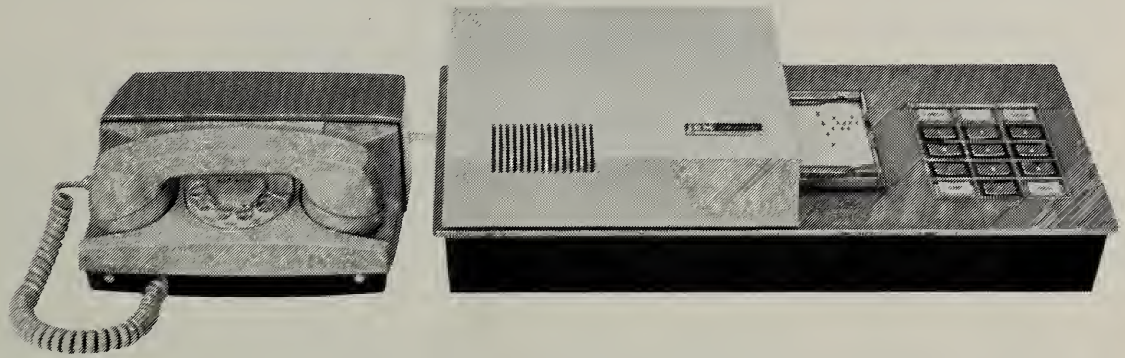

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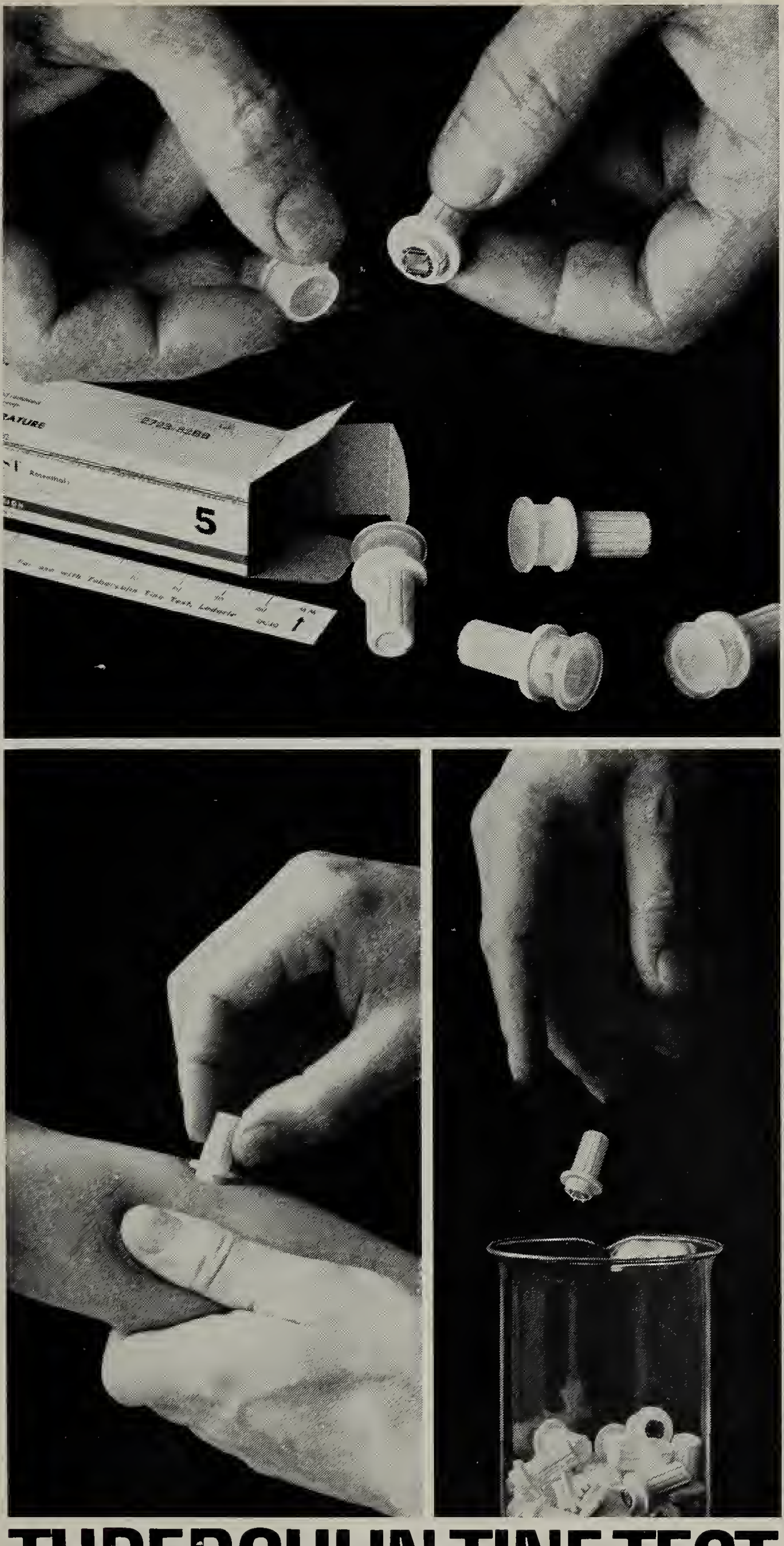

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Stanford University School of Medicine, 300 Pasteur Drive, Palo Alto 94304. Dean: Robert H. Alway, M.D.

University of Southern California School of Medicine, 2025 Zonal Avenue, Los Angeles 90033. Dean: Clayton G. Loosli, M.D.

Loma Linda University, School of Medicine, 1720 Brooklyn Avenue, Los Angeles 90033. Dean: David Burdg Hinshaw, M.D.

University of California at Los Angeles, School of Medicine, Hilgard Avenue, Los Angeles 90024. Dean: Sherman M. Mellinkoff, M.D.

California College of Medicine, 1721 Griffin Avenue, Los Angeles 90031. Dean: Warren L. Bostick, M.D.

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* Deceased.

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Society secretaries are requested to notify California Medicine promptly when changes are indicated in their roster information

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Paul H. Cronenwett.......President
6230 Claremont Ave., Oakland 94618
J. Brandon Bassett.......Secretary
2930 McClure St., Oakland 94609

BUTTE-GLENN Medical Society, P. O. Box 1008, Chico 95927. Meets Fourth Thursday.
Jay O. Gibson.......President
170 E. 2nd Ave., Chico 95926
Dale W. Ritter.......Secretary
6 Cohasset Circle, Chico 95926

FORTY FIRST Medical Society, 4775 Santa Monica Blvd., Los Angeles 90029.
Loron N. McGillis.......President
11230 Magnolia Blvd., No. Hollywood 91601
Glenn F. Gordon.......Secretary
1630 Del Valle Ave., Glendale 91208

FRESNO County Medical Society, 2155 Amador, Fresno 93721. Meets Second Tuesday, 6:30 p.m., Sunnyside Country Club.
Norman E. Tostenson.......President
1223 Wishon Ave., Fresno 93728
Joseph B. Ford, Jr. ....Secretary
2940 Fresno St., Fresno 93721

HUMBOLDT-DEL NORTE County Medical Society. Meets Second Thursday.
Robert Devine.......President
730 7th St., Eureka 95501
Wells Carey.......Secretary
2822 E St., Eureka 95501

IMPERIAL County Medical Society. Meets Second Tuesday, 8 p.m., Pioneer Memorial Hospital, Brawley.
Nathan Wolf.......President
126 Main St., Brawley 92227
Ernest Brock ....Secretary
200 S. Imperial Ave., Imperial 92251

INYO-MONO County Medical Society. Meets Fourth Tuesday except December, January, February.
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380 N. Mt. Whitney Dr., Lone Pine 93545
W. Ray Hartwig.......Secretary
459 West Line, Bishop 93514

KERN County Medical Society, 2603 G Street, Bakersfield 93301. Meets Third Tuesday, 7:30 p.m., Society Office, 2603 G Street, except June, July, August.
Hans E. Einstein.......President
2441 "G" St., Bakersfield 93301
Keith W. Spaulding.......Secretary
2521 "G" St., Bakersfield 93301

KINGS County Medical Society. Meets Second Thursday, 7:00 p.m. Place to be announced.
Clyde Ball.......President
1320 Whitley Ave., Corcoran 93212
Edwin E. Kerr.......Secretary
208 N. Douty St., Hanford 93230

LASSEN-PLUMAS-MODOC-SIERRA County Medical Society. Meets on call.
Lloyd Shannon.......President
P. O. Box 963, Alturas 96101
Robert Haggard.......Secretary
Loyalton, 96118

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1925 Wilshire Blvd., Los Angeles 90057
George C. Andersen.......Secretary
1925 Wilshire Blvd., Los Angeles 90057

MARIN Medical Society, 1601 Second St., Suite 106, San Rafael 94901. Meets First Thursday, 7:00 p.m.
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John McGee ....Secretary
712 D St., San Rafael 94901

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408 W. Perkins St., Ukiah 95482
Patrick R. Allanson.......Secretary
728 S. State St., Ukiah 95482

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535 W. 26th St., Merced 95340
Patrick J. Maloney.......Secretary
656 W. 20th St., Merced 95340

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Osman H. Hull.......President
716 Cass St., Monterey 93940
Joseph E. Turner.......Secretary
1073 Cass St., Monterey 93940

NAPA County Medical Society. Meets Second Wednesday, P. O. Box 658, Napa 94559
E. Paul White, Jr. ....President
P. O. Box 658, Napa 94559
Richard Clark.......Secretary
1054 Beard Rd., Napa 94558

ORANGE County Medical Association, 300 S. Flower, Orange 92666. Meets First Tuesday, 7:00 p.m.
Hugh J. Plumb, Jr. ....President
1901 Westcliff Dr., Newport Beach 92663
Laurance A. Mosier.......Secretary
10510 Chapman St., Garden Grove 92640

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701 High St., Auburn 95603
Arthur R. Weaver.......Secretary
701 High St., Auburn 95603

RIVERSIDE County Medical Association, 4175 Brockton Ave., Riverside 92501. Meets Second Monday, 8:00 p.m., El Loro Room, Mission Inn.
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4175 Brockton Ave., Riverside 92501
Richard W. Trotter.......Secretary
4175 Brockton Ave., Riverside 92501

SACRAMENTO Society for Medical Improvement, 5380 Elvas Ave., Sacramento 95819. Meets Third Tuesday, 8:30 p.m., Sutter Hospital Auditorium.
L. Morgan Boyers.......President
2615 Eye St., Sacramento 95816
James W. Martin.......Secretary
5380 Elvas Ave., Sacramento 95819

SAN BENITO County Medical Society. Meets once a month, except July and August. Time and place to be announced.
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345 5th St., Hollister 95023
Robert D. Quinn.......Secretary
535 Monterey St., Hollister 95023

SAN BERNARDINO County Medical Society, 1875 N. D St., San Bernardino 92405. Meets First Tuesday, 7:30 p.m., Harold's Club, Fontana.
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238 N. Riverside Ave., Rialto 92376
Nicholas P. Krikes.......Secretary
25060 Base Line, San Bernardino 92410

SAN DIEGO County Medical Society, 3427 - 4th Ave., San Diego 92103. Meets Second Tuesday. Location of meetings varies.
Walter R. Nickel.......President
233 A St., San Diego 92101
Purvis L. Martin.......Secretary
2105 5th Ave., San Diego 92101

SAN FRANCISCO Medical Society, 250 Masonic Ave., San Francisco 94118.
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250 Masonic Ave., San Francisco 94118
George K. Herzog, Jr.......Secretary
250 Masonic Ave., San Francisco 94118

SAN JOAQUIN County Medical Society. Meets First Thursday, 8:15 p.m., 445 W. Acacia St., P. O. Box 230, Stockton 95201.
James J. Benn, Jr.......President
P.O. Box 230, Stockton 95201
Dora A. Lee.......Secretary
2420 N. California St., Stockton 95204

SAN LUIS OBISPO County Medical Society. Meets Third Saturday, 7:00 p.m., Anderson Hotel, San Luis Obispo 93402.
Richard W. Eells.......President
743 Pismo St., San Luis Obispo 93401
Richard W. Cletsoway.......Secretary
705 Grand Ave., San Luis Obispo 93402

SAN MATEO County Medical Society, 122 El Camino Real, San Mateo 94401. Meets Third Tuesday.
Ward L. Hart.......President
100 Laurel Ave., San Carlos 94401
Howard W. Lindsey.......Secretary
323 N. San Mateo Dr., San Mateo 94401

SANTA BARBARA County Medical Society, 300 W. Pueblo St., Santa Barbara 93105. Meets Second Monday of the month, University Club, 1332 Santa Barbara St., Santa Barbara.
H. L. Stewart, Jr.......President
300 W. Pueblo St., Santa Barbara 93105
Thurman K. Hill.......Secretary
300 W. Pueblo St., Santa Barbara 93105

SANTA CLARA County Medical Society, 1960 The Alameda, San Jose 95126. Meets First Monday.
S. Fred Kaufman.......President
1960 The Alameda, San Jose 95126
Jacob M. Stone.......Secretary
1960 The Almeda, San Jose 95126

SANTA CRUZ County Medical Society. Meets every Second Month, Second Tuesday. Time, place to be announced.
F. H. Koepke.......President
850 Main St., Watsonville 95076
John W. Morris.......Secretary
230 Walnut Ave., Santa Cruz 95060

SHASTA-TRINITY County Medical Society. Meets Second Monday of the month. Place to be announced.
Michael J. Hamilton.......President
1348 Market St., Redding 96001
Robert G. Taylor.......Secretary
1308 Court St., Redding 96001

SISKIYOU County Medical Society. Meets Sunday on call.
William D. Schnack.......President
8 Main St., Weed 94096
Rand Apgood.......Secretary
Medical Center Building, Yreka 96097

SOLANO County Medical Society. Meets Second Tuesday, 8:00 p.m., at different meeting places.
R. Matthew Gibbons.......President
1200 Marin St., Vallejo 94590
John C. Miller.......Secretary
410 Tennessee St., Vallejo 94590

SONOMA County Medical Society, 576 B Street, Santa Rosa 95401. Meets Second Thursday.
A. A. Thurlow, Jr. ....President
185 Sotoyome St., Santa Rosa 95405
Tetsuro Fujii.......Secretary
576 B St., Santa Rosa 95401

STANISLAUS County Medical Society, 303 Downey Ave., Modesto. Meets Third Tuesday of the month, 7 p.m., Hotel Covell, Modesto 95354.
John S. Woolley.......President
808 13th St., Modesto 95354
Jeanne I. Miller.......Secretary
709 - 18th St., Modesto 95354

TEHAMA County Medical Society. Meets at call of President.
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343 Oak St., Red Bluff 96080
William L. Weirich.......Secretary
210 S. Main St., Red Bluff 96080

TULARE County Medical Society, 1640 West Mineral King, P. O. Box 16, Visalia 93278.
James W. Goettle.......President
424 E. Tulare Ave., Tulare 93274
Philip S. Barber.......Secretary
P. O. Box 16, Visalia 93278

VENTURA County Medical Society. Meets Second Tuesday each month, 7:30 p.m., Los Posas Country Club, Camarillo.
Henry J. Rulfo.......President
302 Glen Ellen Dr., Ventura 93003
F. K. Helbling.......Secretary
3081 Loma Vista Rd., Ventura 93003

YOLO County Medical Society. Meets First Wednesday.
Spencer T. Chester.......President
Woodland Clinic, Woodland 95675
Samuel C. Houston.......Secretary
3 Court St., Woodland 95695

YUBA-SUTTER-COLUSA County Medical Society, 370 Del Norte Ave., Yuba City 95991. Meets Second Tuesday.
Robert H. Greeley.......President
725 4th St., Marysville 95901
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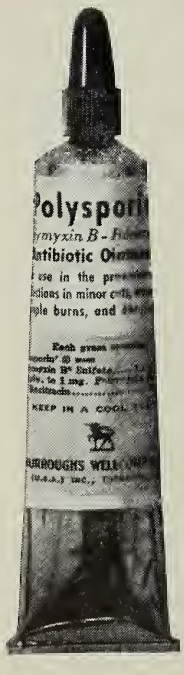

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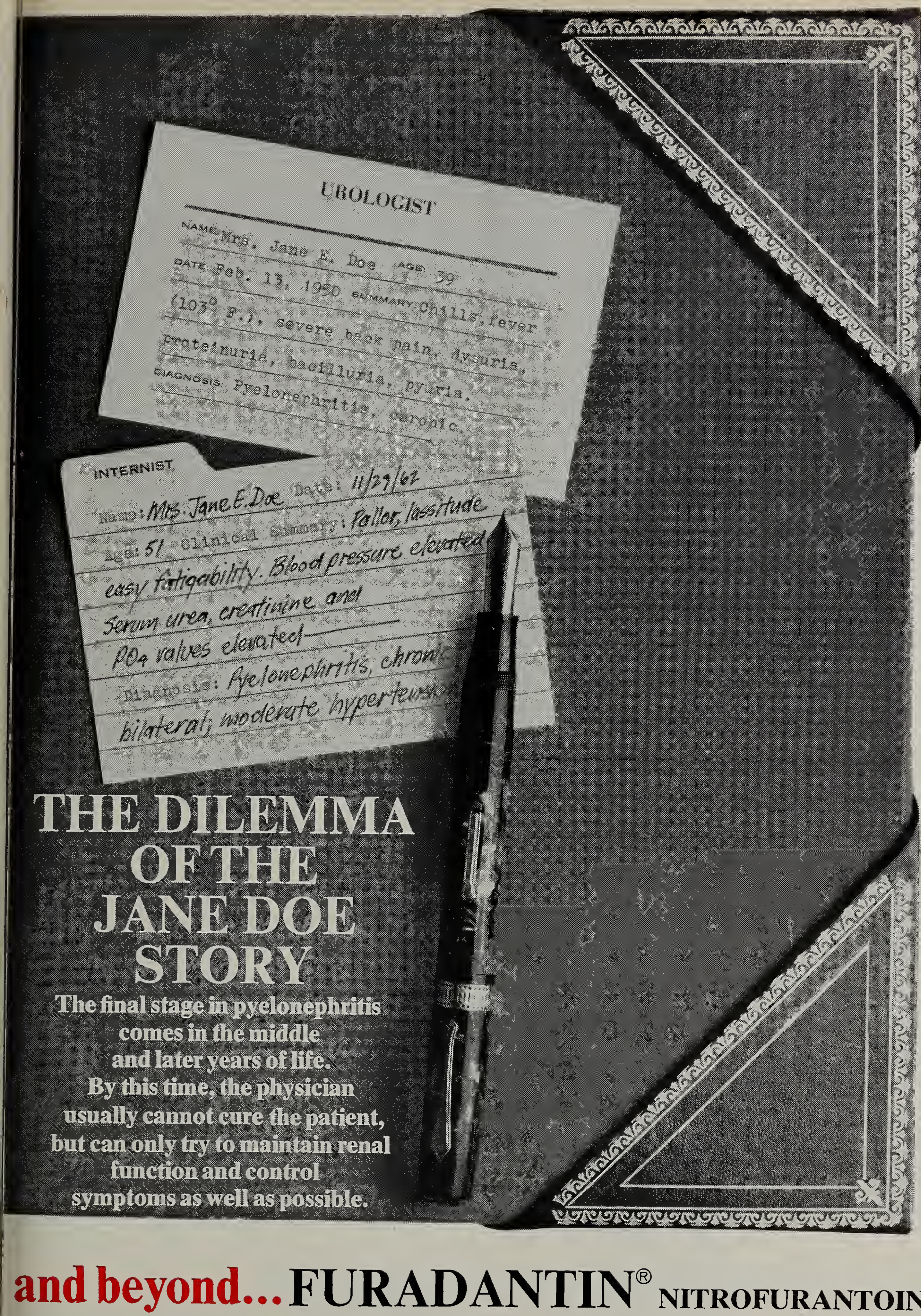

UROLOGIST

NAME Mrs. Jane E. Doe AGE 39

DATE Feb. 13, 1950 SUMMARY Chills, fever (103° F.), severe back pain, dysuria, proteinuria, bacilluria, pyuria.

DIAGNOSIS Pyelonephritis, chronic.

INTERNIST

Name: Mrs. Jane E. Doe Date: 11/29/62

Age: 51 Clinical Summary: Pallor, lassitude easy fatigability. Blood pressure elevated Serum urea, creatinine and PO4 values elevated

Diagnosis: Pyelonephritis, chronic bilateral; moderate hypertens

THE DILEMMA
OF THE
JANE DOE
STORY
The final stage in pyelonephritis
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but can only try to maintain renal
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Vaccines Successful Against Disease Causing Blindness

Experimental vaccines have been used successfully to prevent trachoma, an eye disease which is the most important cause of blindness in the world.

The report came from Dr. J. Thomas Grayston, Seattle, and his associates who have been working on trachoma vaccines for five years at the U.S. Naval Medical Research Unit on Formosa and at the University of Washington, Seattle.

Their program included preparation of experimental vaccines and tests in monkeys and human beings for antibody response and protection, according to the report summarizing their findings in the April *Archives of Environmental Health,* published by the American Medical Association.

A trachoma virus was first isolated by F. F. Tang and colleagues in Peking in 1957. In the past five years, the virus has been readily isolated in a number of laboratories around the world.

Although trachoma can be cured by several antibiotics and sulfa drugs, attempts to eradicate the disease through mass antibiotic campaigns have shown success only in the more developed countries. Even in the southwestern Indians of the United States where the disease was believed to have been virtually wiped out, there has been a recurrence.

An estimated 500 million persons, one-sixth of world population, are afflicted with the disease.

"With the demonstration that vaccine can prevent infection, there is hope for the eradication of this disease," Dr. Grayston said.

After observation for periods of up to three years, an early vaccine developed by Dr. Grayston's group, with relatively low potency, was found to have a preventive effectiveness of 60 per cent among preschool aged children. It also had a favorable effect on the course of the disease and the response to treatment with antibiotic eye ointment in experimentally infected volunteers.

Despite these favorable results, Dr. Grayston said, there was difficulty in preventing experimental infections in man or monkeys with vaccine apparently because the experimental inoculation is a stronger challenge than natural infection.

After earlier failures, however, successful protection was obtained by adding mineral oil to the vaccine to improve its potency. Recently, highly purified concentrated vaccines have been prepared which have been shown to be very effective in preventing experimental infection.

"A developmental problem remains to find a relatively easy way to produce high potency vaccine," the report added.

The successful use of vaccine in countries where trachoma is a major problem will require knowledge of the prevalence of the disease among the population and the type of trachoma virus strains present.

Recent reports suggest...insulin and sulfonylureas may accelerate lipogenesis,[1-5]... serum "insulin" levels are often elevated in obese diabetics[2,3,6]...DBI (phenformin HCl) reduces high blood sugars, lowers elevated "insulin" levels, tends to reduce body weight toward normal.[1,3,7-9]

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In the obese diabetic (ketoacidosis-resistant), DBI (phenformin HCl) with a proper diet: **A.** acts to reduce high blood sugar without increasing fat synthesis or weight gain. **B.** does not increase already elevated endogenous insulin levels; may, indeed, act to restore more normal levels. **C.** favors reduction of weight.

In the ketoacidosis-resistant obese diabetic not amenable to diet alone, hypoglycemic DBI (phenformin HCl) appears to help avoid weight gain or reduce adiposity, factors which otherwise tend to make blood sugar control more difficult and to increase the likelihood of complications. However, in the ketoacidosis-prone diabetic, insulin is still the essential hypoglycemic agent.

Summary: Indicated in stable adult diabetes, sulfonylurea failures and unstable diabetes. Gastrointestinal side effects occurring more often at higher dosage levels abate promptly upon dosage reduction or temporary withdrawal. Occasionally an insulin-dependent patient will show "starvation" ketosis (acetonuria without hyperglycemia) which must be differentiated from "insulin-lack" ketosis, and treated accordingly. Use with caution in severe liver disease. Not recommended without insulin in acute complications (acidosis, coma, infections, gangrene, surgery). Consult product brochure for full information.

Bibliography: 1. Williams, R. H.: Textbook of Endocrinology, Ed. 3, Saunders, Philadelphia, 1962, p. 610. 2. Gordon, E. S.: Metabolism 11:819, 1962. 3. Grodsky, G. M. et al.: Metabolism 12:278, 1963. 4. Sadow, H. S.: Metabolism 12:333, 1963. 5. West, K. M. and Tophoj, E.: Metabolism 10:689, 1961. 6. Yalow, R. S. and Berson, S. A.: Diabetes 9:254, 1960. 7. Weller, C. et al.: Scientific Exhibit, A.M.A., June 1962. 8. Weller, C. et al.: Metabolism 11:1134, 1962. 9. Radding, R. S. et al.: Metabolism 11:404, 1962.

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Studies show that a vaccine containing one virus strain will protect against that strain but not against any of three other strains tested so far.

In those countries where infection occurs at a very early age, it will probably be necessary to combine antibiotic therapy of active cases with widespread vaccination of children to prevent the disease, Dr. Grayston explained.

Field trials designed to assess the combined effect of trachoma vaccine and antibiotic therapy are now under way. Vaccines also are being field tested among first grade school children on Formosa.

Co-authors of the report are San-Pin Wang, M.D., Robert L. Woolridge, D.Sc., and E. Russell Alexander, M.D.

AMA Spokesman Says Few Aware Of Grievance Committees

One of the most effective ways the medical profession polices itself for the protection of the public is through the grievance committees, according to Dr. Percy E. Hopkins, chairman of the Board of Trustees, American Medical Association.

"Most people are unaware that grievance committees exist within the profession," Dr. Hopkins wrote in the March *Today's Health* magazine, published by the AMA.

"Nevertheless, all over the country, state and county medical society grievance committees every year investigate and act upon complaints against individual physicians, lodged by patients who feel they have been wronged in some manner by their doctor."

All state medical societies, all but a few of the larger county societies, and many smaller county societies have established grievance or mediation committees, Dr. Hopkins said. They function on the premise that the medical profession has an obligation to the public which requires that serious complaints be investigated honestly, fairly, and impartially, with the double objective of protecting the physician against frivolous and unjustified accusations, and attempting to resolve disputes in favor of the patient when the facts warrant, he explained.

The committees, however, are not constituted, to serve as a "trial court" with powers of punishment, Dr. Hopkins continued. They are more akin to a grand jury which examines the evidence. They either exonerate the accused or return an indictment for action by an appropriate body within the profession or an appropriate agency of government.

Many complaints could be avoided by a frank discussion between physician and patient, according to Dr. Hopkins. A majority of disputes results from a failure in communications.

When the differences cannot be amicably resolved on an individual basis, he said, grievance committees can serve as a medium for arriving at a just settlement of the disagreement.

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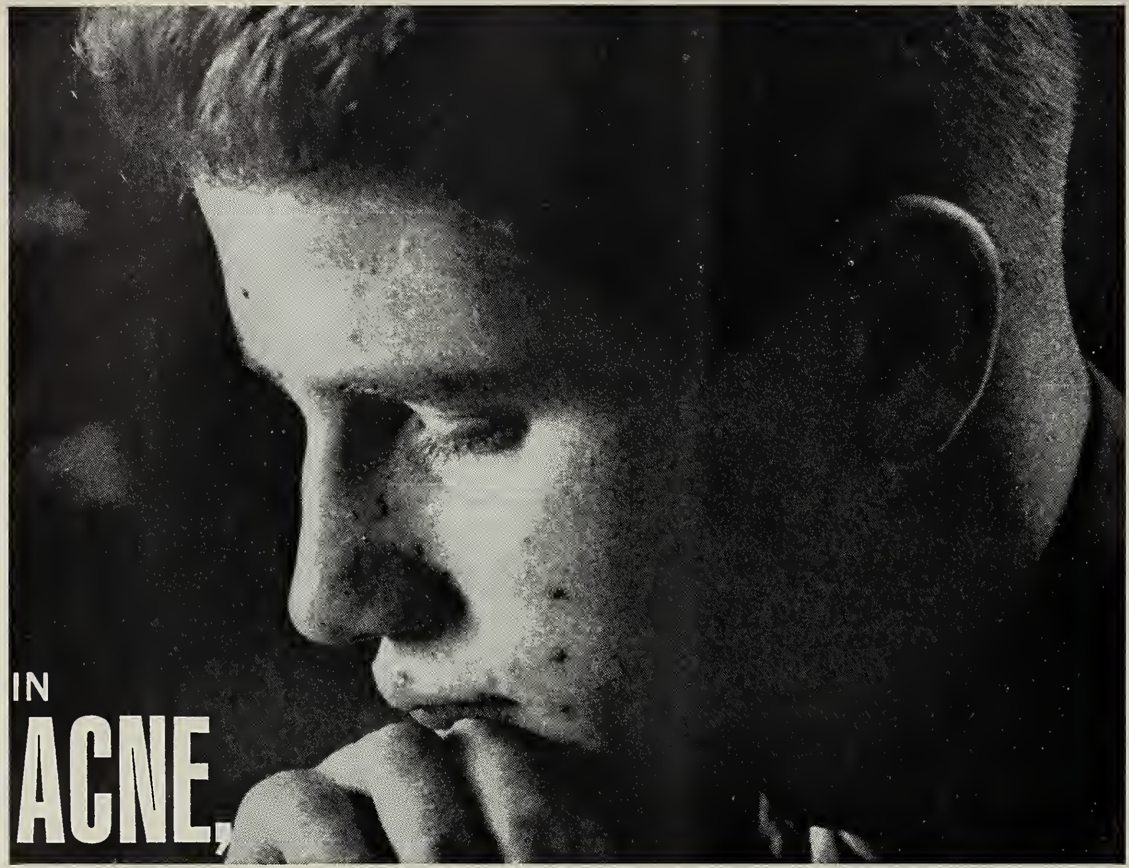

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References: **1.** McLean, I. E. D.; Graham, K. T., and East, M. O.: **Practitioner** 189:82, July, 1962. **2.** Seastone, C. V.: **Surg. Gynec. & Obst.** 84:355, March, 1947. **3.** Wexler, Louis: Treatment of acne vulgaris, **Clin. Med.** 70:404, Feb., 1963.

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Young Smokers Rebel Against Authority

High school students who smoke are less well adjusted to adult authority than nonsmoking students, a recent study shows.

A total of 304 seniors, aged 16 and 17, attending the Newton, Mass., Public High School were given a group psychological test in an attempt to measure personality differences between those who smoked, had stopped smoking, or never smoked.

The results were reported by Eva J. Salber, M.D., and Joan E. Rochman, Ed.M., Boston, in the March *Archives of Environmental Health,* published by the American Medical Association.

Among boys, smokers, and particularly heavy smokers, were found to have less satisfactory relationships with authority in general and parents in particular than did nonsmokers.

Girls who smoked heavily gave a picture similar to that of all boys who smoked. However, girls who smoked were apparently more cheerful and self-confident than those who did not smoke.

"A very important social drive in this age group is the need for status or prestige," the investigators said. "Children who are less well adjusted in the field of family relations and adult authority are more likely to seek security in the company of their peers and to use a cigarette which at one and the same time symbolizes adulthood, superiority, and defiance."

Previous studies showed that smokers achieve less well in school than nonsmokers, they continued, and it seems reasonable to believe that smoking is the result of low achievement rather than the reverse.

"As indicated by a study of recreational patterns it would also appear that smokers do not have the inner resources of the nonsmokers," they added. "For example, they [smokers] watch television more, go to movies more often, and read fewer books than do nonsmokers. They also are more frequently car owners and go to more dances than do nonsmokers, but they play sports less and belong to fewer clubs than do nonsmokers."

Among boys, nonsmokers appear to be a confident group while discontinued smokers apparently are both less self-confident and more difficult people to get along with, the psychological testing revealed.

Girls who are nonsmokers are apparently "shy people with little self-confidence," according to the report. Discontinued smokers appear self-assured. The girls who smoke seem to be the most rebellious and while enjoying social contacts express impulses which may be socially unacceptable.

At this age level, it is likely that patterns of behavior will still be fluid, the authors pointed out, and only cautious generalizations should be made on the basis of a single test at one point in time.

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Antibiotic During Pregnancy Affects Teeth of Offspring

Antibiotics taken during pregnancy recently were reported to have caused tooth discoloration and defects in several children.

Abnormal teeth were found in seven children whose mothers had taken a tetracycline (oxytetracycline, demethylchlortetracycline or tetracycline) after the fourth month of pregnancy, Allen H. Kline, M.D., Russell J. Blattner, M.D., and Martin Lunin, D.D.S., Houston, wrote in the April 13 *Journal of the American Medical Association.*

The affected teeth showed yellow fluorescence indicating tetracycline deposits in calcifying tissues, according to the report. Six of the seven children, aged two to five, had teeth showing varying degrees of decay and incomplete enamel development.

A total of 13 children was studied, 9 from the Venereal Disease Clinic of Jefferson Davis Hospital in Houston and 4 from private practice. None had received a tetracycline since birth.

Nine of the children were born to mothers given a tetracycline or erythromycin, another antibiotic, for syphilis during pregnancy because of penicillin allergy. The private patients all received a tetracycline. All drugs were taken by mouth.

None of the four children of mothers given erythromycin in the sixth, seventh and eighth months of pregnancy had abnormal teeth. The other two children who had no tooth abnormalities were born to mothers given a tetracycline in the third month of pregnancy.

The pregnancy records of the four private patients were reviewed after tooth abnormalities were observed in the children, the report pointed out. The nine children of clinic cases were called in for examination because of the administration of the drugs to their mothers during pregnancy.

The dosage and duration of medication required to damage the teeth are being studied by the authors.

Of special interest was the drug history of the mother of three children included in the study, the authors said. She was given erythromycin when six months pregnant with her first child, who has normal teeth. She was given oxytetracycline when six months pregnant with her second child, who has yellow fluorescent teeth. She was given oxytetracycline when three months pregnant with the third child, who has normal teeth.

Calcification of teeth begins during the middle of the fourth month of pregnancy, the report pointed out.

"It would seem reasonable, therefore, that in this instance the tetracycline received at three months' gestation did not affect the teeth adversely because the mother received the drug before the teeth were being calcified," the authors commented.

Drs. Kline and Blattner are affiliated with Baylor University College of Medicine and Dr. Lunin with the University of Texas Dental Branch.

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Pay special attention to electrolyte balance of patients with severe renal or hepatic insufficiency. In patients with cirrhosis and ascites, watch for symptoms of impending hepatic coma. Contraindicated in patients with oliguria and complete renal shutdown.

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Tablets #2 (white), each containing 1 mg. syrosingopine and 25 mg. hydrochlorothiazide; *Tablets #1* (white), each containing 0.5 mg. syrosingopine and 25 mg. hydrochlorothiazide.

References

1. Kolodny, A. L., and Dabolins, R.: Angiology *11*:180 (June) 1960.
2. Bare, W. W.: J. Amer. Geriat. Soc. *8*:795 (Oct.) 1960.
3. Lisan, P., and Balaban, S. A.: J. Amer. Geriat. Soc. *8*:803 (Oct.) 1960.

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Psychoquackery Flourishes Due to Public Confusion

Psychoquackery is flourishing today mainly because of public confusion about what truly qualifies an individual to treat the human mind.

The treatment of mental illness and emotional problems by unqualified practitioners and flagrant impostors was discussed in an article in the March *Today's Health* magazine, published by the American Medical Association.

Nobody really knows how many psychoquacks there are, because—unlike most other crimes against humans—there is almost no way of counting violators, according to the article.

About two-thirds of the states have no laws to prevent anyone from legally hanging out a shingle and calling himself a psychologist. Even in the states with laws, evasion for the psychoquack is simple if he does not call himself psychologist, psychoanalyst, or psychiatrist.

Many masquerade under a weird assortment of titles, such as scientologist, metaphysician and astrolotherapist.

One study in 1956 indicated there were about 25,000 unqualified psychological practitioners in the United States, taking in roughly 375 million dollars a year, the article said.

A qualified professional is either a psychiatrist, a psychoanalyst, or clinical psychologist, it was explained.

All qualified psychiatrists are physicians who have specialized in psychotherapy and have met stiff standards of postgraduate education and internship.

Generally, qualified psychoanalysts take several additional years of training which makes them a specialty within a specialty.

The psychologist, on the other hand, represents many different fields of study based on scientific attempts to understand human behavior and processes of learning, which may or may not be related to mental health. The psychologist may be a clinical psychologist and qualified to practice psychotherapy, or he may be a specialist in a score of different psychological disciplines which have nothing whatever to do with therapy, such as vocational guidance or aptitude testing.

To be recognized as a psychotherapist, the article continued, a clinical psychologist is required to have at least a doctorate degree in his specialty as well as additional supervised training and experience in psychotherapy.

Therefore, it is not enough to accept any diploma, even a doctorate degree, as legitimate credentials for the practice of psychotherapy, the article stressed. As in any field of health, the qualified psychotherapist should meet the standards of education and experience set by accredited professional socie-

(Continued on Page 34)

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New Drug Compared With Morphine

A new drug, believed to be nonaddicting, that approaches the pain-relieving ability of morphine, has been developed, Harvard University researchers reported in the April 13 *Journal of the American Medical Association.*

Pentazocine, classified as a morphine antagonist because it reverses the effect of morphine and similar-acting drugs in man, was described by Drs. Leo J. Cass, Willem S. Frederik and Jose V. Teodoro, Boston.

The drug was tested in a double-blind study among 16 patients, 15 men and one woman ranging in age from 41 to 72, with chronic moderate to severe pain. The patients received injections of pentazocine in two different amounts, morphine sulfate, or an innocuous substance at different times over a three-day period.

"Pentazocine in 40 mg (milligram) dosage approaches though is not equal to the analgesic effectiveness of morphine sulfate 20 mg," the researchers said. "It produces basically the same side effects (nausea, vomiting, excitement, drowsiness, dizziness) as morphine, but more severe and more frequent drowsiness.

"Pentazocine in 20 mg dosage produces considerably fewer side effects than either morphine or pentazocine 40 mg, but still maintains a fairly high level of pain relief over a period of at least two hours."

So far, they said pentazocine has not been found to produce or support tolerance or dependence.

The earlier discovery that nalorphine hydrochloride, another morphine antagonist, had pain relieving properties opened up new possibilities in the field of analgesics, the authors commented.

Studies with nalorphine showed that potent pain relief could be separated from dependency and a pain reliever of the morphine level of effectiveness without addictive properties could be developed, they said. However, nalorphine had to be abandoned because of the severe side effects it caused. Work with other morphine antagonists followed.

Psychoquackery Flourishes Due to Public Confusion

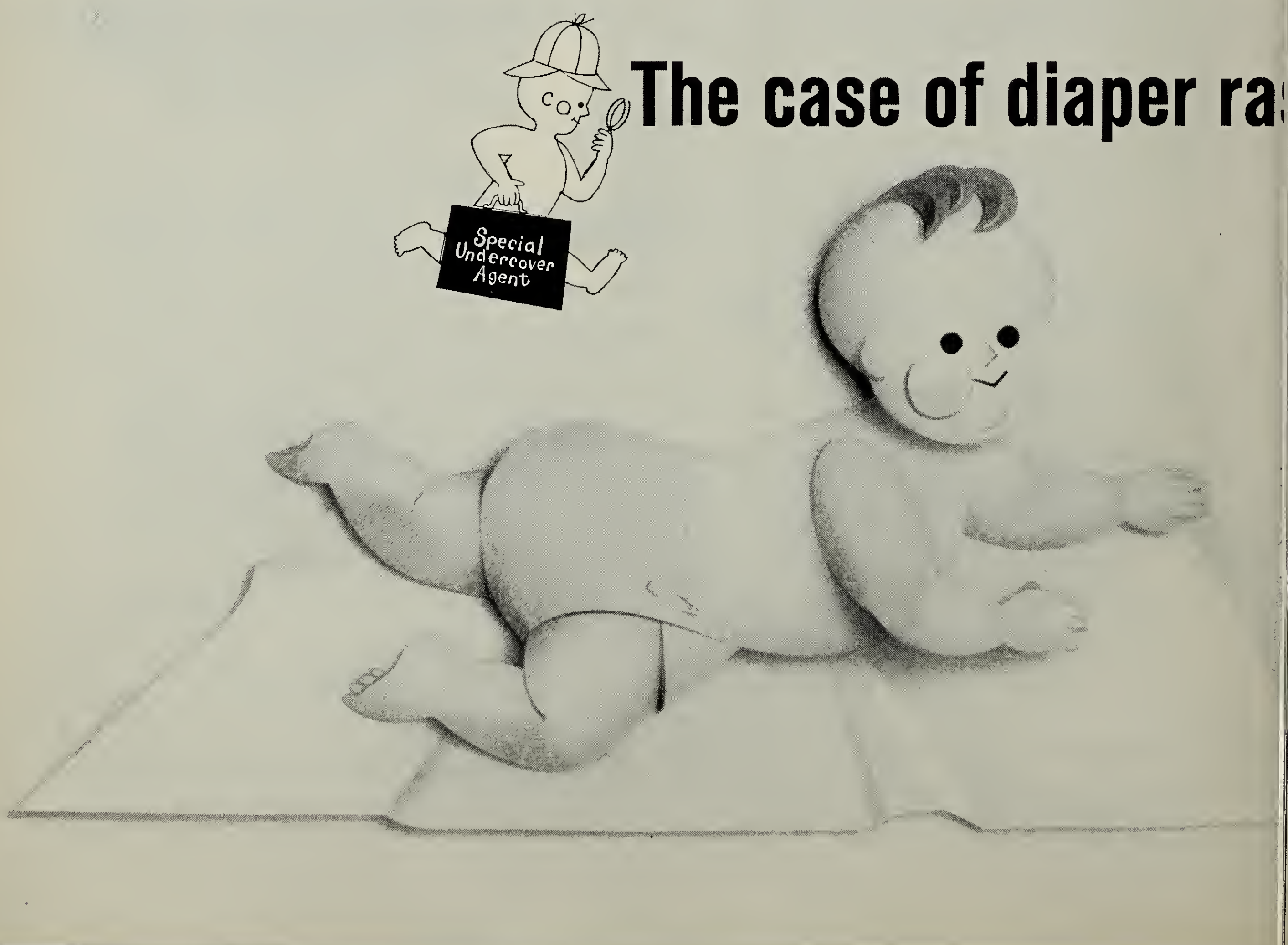
(Continued from Page 32)

ties who, at least, have watchdog committees to discipline unethical members.

There is no easy answer to the problem of growing psychoquackery, the article added.

However, the individual can protect himself by seeking psychiatric advice only from accredited and reputable sources.

A person in need of this kind of help should first consult his family physician. There also are two professional organizations which could lend assistance, the American Psychiatric Association and the American Psychological Association, both with headquarters in Washington, D.C.



Abnormally Long Chromosome Linked to Multiple Defects

A boy born with multiple abnormalities was found to have one abnormally long chromosome, according to a report in the February 22 *Journal of the American Medical Association.*

The case "appears unique" because the boy had the normal number of 46 chromosomes, which included the extra long one, Patrick F. Bray, M.D., and Sister Ann Josephine, CSC, Ph.D., Salt Lake City, said.

Chromosomes, consisting of 22 pairs and two sex chromosomes, contain genes which determine hereditary traits.

From all available evidence, the authors said, it seems very likely that abnormally produced genetic material from a chromosome of either pair 13, 14, or 15 became attached to a chromosome of either pair 4 or 5.

The extremely long chromosome along with the otherwise normal chromosome pattern indicates an excess of chromosome material, they pointed out.

The boy failed to thrive after birth. He had abnormalities of the heart, kidneys, muscles and skeleton and apparently was mentally retarded. He died at seven months of age.

The patient was the fourth child of parents who had normal chromosome patterns. The other three children were normal.

Failure of chromosomes in pairs 13, 14, and 15 to separate in developing sex cells has been seen frequently and these long chromosomes also have been involved in other types of translocations, the authors added.

Chromosomal abnormalities have been associated with mongolism and other syndromes.

CMA Distributes Funds For Education and Research

Contributions totaling $213,392.81 have been presented to California's six medical schools by the California Medical Association, it was announced recently by Dr. James C. Doyle, president. The money was provided by California physicians in donations to the American Medical Association Education and Research Foundation.

Privately supported medical schools received major shares of the funds, which were distributed as follows:

California College of Medicine, Los Angeles, $92,037.00; Loma Linda University, Loma Linda, $39,719.72; University of Southern California, Los Angeles, $36,232.45; Stanford University, Palo Alto, $34,544.41; University of California, San Francisco, $6,185.41; University of California, Los Angeles, $4,672.91.

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In the Ultimate Public Good

SAMUEL R. SHERMAN, *M.D.*, San Francisco

It is with somewhat mixed feelings that I speak on this occasion—the opening session of the 93rd annual meeting of the 108-year-old California Medical Association. It marks the end of my term as president, and I would be less than sincere if I didn't say that I am leaving this office with a great deal of regret.

It has been a most interesting year, an exciting year—in the give-and-take of public debate, in the science and art of medicine and in the community application of our professional skills and services.

One of the primary responsibilities of the president of the CMA is to appear as its spokesman on matters of professional policy as it is established by the House of Delegates and as it is administered by the Council. In this role I have appeared before committees of the Congress and of the State Legislature. I have met with heads of state departments and with leaders of political, business and professional thought throughout California and across the country. I have spoken before groups friendly to our philosophy and to groups that are strongly opposed.

It has been, I assure you, a highly concentrated course in economics and politics. At least one of the things I learned has made a lasting impression on me. It is this:

When medicine speaks on public matters and speaks with reason, with sincerity and with unanimity, it wins respect for its views.

It may not always persuade its audience to adopt those views, but it *does* get a hearing for them.

Given enough of this respect and enough of these hearings and we might find our profession regaining the public esteem it seems to have lost in some circles.

There is one area, however, where unanimity in speaking is *not* always a virtue—and that is in the scientific side of medicine. Controversy provides an ideal climate for the development of new techniques and procedures in medical and surgical science.

I'm pleased to note that several of the members of the House of Delegates are listed as participants in some of the scientific programs. I am sure that all of us will find some time in which to take advantage of the outstanding material that will be presented here.

As you are aware, this marks the first scientific assembly under the direction of the Scientific Board, which was given form and substance by action of this House at its last meeting.

And, without a doubt, the program that has been arranged is evidence that the new regime is making an auspicious debut.

The general sessions theme of immunology makes this one of the timeliest clinical programs it has ever been our good fortune to attend. What is of most significance, of course, is that our guest speakers are among the leading clinical and surgical exponents of this rapidly-expanding field of knowledge.

Another thing I have learned as a peripatetic president is that not all of those who oppose our views have horns and a spiked tail. There are many reasoning and reasonable people who are just as

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Presidential address, presented before the first meeting of the House of Delegates of the California Medical Association, March 21, 1964.

honestly convinced that they are right as we are convinced that they are wrong—and vice versa.

The difficulty with these people, of course, is that they are stubborn. They won't let us convince them that we are righter than they are—and I mean that in the sociological sense, not the ideological.

But we keep trying.

We who are members of this gathering can be of tremendous help to our spokesman of the immediate future, Jim Doyle, in this continuing struggle for public opinion.

It is within the power of this deliberative body, the House of Delegates, to make decisions that will directly affect the course medicine takes in California and perhaps elsewhere.

Many of the resolutions on which we will act are concerned with the internal affairs of the California Medical Association. Many others are on matters that have to do with our relationships with government agencies and government programs. And still others are involved with matters of more direct concern to the public.

There will be much debate on many of these issues, both in the reference committee hearings and in the House sessions—and I don't expect either the volume or the length of the debates to be any the less just because this House of Delegates is about half the size of last year's.

This is all to the good, this freedom of expression —and I'm certainly not advocating its curtailment.

I do, however, offer this bit of philosophy paraphrased from the masthead of the Alameda-Contra Costa Medical Association *Bulletin*, where it has appeared for the past 20 years:

> That the philosophy of this House of Delegates is the interpretation and direction of its every act in terms of the ultimate public good.

On close examination that seems to make solid, practical sense. By interpreting and directing our every act in this House of Delegates in terms of the ultimate public good, we actually will be demonstrating *enlightened* self-interest—which is far different from unadorned self-interest.

Enlightened self-interest is the realization that whatever we decide here which in some way affects the public, also directly affects us, to the same degree and in the same nature.

To put it another way, I quote these words of Malcolm Watts which appeared on the masthead of the CMA *Newsletter:*

> "What is best for the patient is always best for medical practice and for the doctor."

In urging this philosophy, I am not advocating a program of abject self-denial—nor does the philosophy require it. You will notice that it sets the *ultimate* public good as its goal, not necessarily the *immediate* public good. Many times, of course, the two are concurrent, but there could be an occasion when the ultimate good is the end result of an initially unpopular act by us.

We already are somewhat uncomfortably aware of how this works. In some quarters we, as a profession, are quite unpopular because we support the principle of individual responsibility, whenever possible, in matters of health.

The prime example of this position is our stand against the adulteration of the social security system. We believe it is in the long term public interest to prevent this mechanism from being used for the provision of personal services, as embodied in King-Anderson-type legislation.

But there are those who loudly and critically disagree. Nevertheless, we will continue to hold to the position that our policy on this is in the ultimate public good.

This seems the logical place in which to talk about tactics in our nationwide efforts to continue a way of practice that we feel in our hearts is in the public interest.

We have vigorously and continuously maintained that government incursion into even the fringes of medical practice—by way of the hospital service entrance as proposed by King-Anderson—is the first step toward socialized medicine.

We have said this so often that many of us wince self-consciously whenever we say it or hear it again. And there are those among us so sensitive on this point that they would have us tiptoe around the phrase rather than use it.

I feel no such compunction. I'll use the words "socialized medicine" whenever and wherever they fit— and, according to Webster's Dictionary, they certainly seem to fit this situation:

> "Socialized medicine—Administration by an organized group, a state, or a nation of medical and hospital services to suit the needs of all members of a class or classes or all members of the population, deriving funds from assessments, philanthropy, taxation, or other sources."

If that doesn't tie up King-Anderson in a nice pink ribbon, I don't know what does.

And if ever we wanted some solid backing for our claim that King-Anderson (or its like) is the entering wedge for socialized medicine, we have it now.

I refer you to the January issue of the CMA *Newsletter*, wherein a labor newspaper is quoted as follows:

"When even weak half-way measures (such as King-Anderson compromises) are bitterly opposed by medical-money interests, labor can do no less than fight for full measures—for a complete health package — today for the aged, *tomorrow* for *all* Americans of *every* age."

That, as *Newsletter* put it, certainly spells it out.

But keep this in mind: There is a weakness in our continuing emphasis on socialism which is inherent in all ideological theses.

The more we hammer away at the socialized medicine aspect of King-Anderson, the more we convince the socialism-minded that it is a great idea.

The reverse, of course, is also true. The more we remind those who are opposed to socialism of this aspect of King-Anderson, the more likely they are to get out and work against it.

The point here, of course, is that by using this argument we aren't going to do much winning of friends and influencing of people among those whose ideological slant is left of center.

How can we reach these people? How can we convince them that *this* threatened form of socialism, at least, is not good for them?

We can't do it by citing tax increases, by engulfing them in a shapeless mass of statistics.

But perhaps we *can* do it if we can explain what it means to them to keep the patient-doctor relationship as free from government interference as is socially possible and to maintain their right to freedom of choice of a physician.

Please note that I said *if* we can explain this.

I admit that *I* can't explain it in terms that make sense to someone on the other side of the philosophical fence. I just *know* that the patient's right to fire me and go to someone else is good for his psyche—and that's good for his health. And, more than incidentally, it keeps us doctors on our toes, too.

I also know that the one-to-one relationship between doctor and patient, without some government agency making it a trio, gives the patient a share in the responsibility for his care—an exercise in initiative and self-reliance, if you will. And this, too, is good for what ails him.

If the patient is merely a passive receptacle for government pills, he unconsciously shucks his part of the responsibility and leaves the whole job up to you and the agency.

And we're well aware of how this affects the rate and speed of recovery in institutionalized medicine.

But there is a wide gap between our believing and saying these things and our convincing the socializers of their truth.

Someone may yet come up with an answer to this problem. It may come from the study-in-depth of the role of medicine in society which the CMA undertook on authorization by this House of Delegates last year.

But in the meantime all we can do, I suppose, is continue along the same broad lines that we have been following in trying to prevent socialized medicine from happening—even to those who want it.

One of these lines, of course, is encouraging the continuing growth and effectiveness of the voluntary health insurance movement—and much of the credit for the success of this across the nation is due our predecessors in this House of Delegates who authorized the formation, 25 years ago this month, of California Physicians' Service.

There are those among us who are not convinced that CPS is a good thing for the practice of medicine today. To them I suggest that it *is* a good thing, if only because we can argue about it and *do* something about it because it is *ours*. This is something we could *not* be doing if government—and not CPS—had filled the need which existed a quarter of a century ago.

Another line we must continue to follow in meeting medico-economic needs, at least in California, is to keep on trying to make Kerr-Mills Medical Assistance for the Aged here the finest of its kind in the nation.

The CMA's chief concern in this is that Kerr-Mills, as quickly as possible, fulfill its promise to meet the medical care costs of those who are otherwise able to take care of themselves. These people, now, must almost pauperize themselves before they can qualify for help—and whatever must be done to correct this *will* be done. That is our goal, and we will not be deterred.

As I told a State Senate Fact Finding Committee last December, I believe that the legislature is in favor of gradually improving help for this group—but we would like to see this process speeded up. So far, the majority of the help provided has been that for the *needy* aged.

Of course, the suggestions made by the CMA for improvement of the Kerr-Mills program here would cost more than the money that so far has been made available by the state legislature, with its accompanying federal and county funds.

A state official has estimated that just to provide free choice of hospital for acute care under the present law, using a $500 deductible, would cost an additional six million a year from all three sources.

But I ask you (as I asked the Fact Finding Committee), what is the state's share of this, just one and one-half millions to do a job that is *necessary*, compared with two *hundred* million a year? That's what Californians would have to pay in extra social security taxes under King-Anderson for a job no reasonable person believes *is* necessary on so grandiose a scale.

This continuing—and, believe me, at times most frustrating—battle for public opinion has become part and parcel of the practice of medicine today. I'll wager that every one of us has often thought, somewhat wistfully, that it would be real nice if he could get back to just plain physicianship.

Unfortunately, we wouldn't be of much use to ourselves, our colleagues *or* our patients if we kept our heads hidden in the sands of nostalgia.

Instead, we have learned to live with it. And, for that matter, it isn't as totally time-consuming and thought-consuming as our concentration on such matters in meetings of the House of Delegates seems to indicate.

After all, we are still doctors of medicine—and we earn our living doing that for which our inclination, our education and our training has best fitted us, the practice of medicine.

This, the manner in which we so far are permitted to practice medicine in this country, is well worth defending, as even a brief review of the achievements of medicine over the past year will remind us.

Scores, perhaps hundreds of significant advances in techniques and modalities have been reported during this short span of time—each, in its way, a step forward in the never-ending battle against illness and death, and we have the rare privilege of being part of the army.

Here in California, as part of the practice of medicine and yet outside of the daily dealings with patients, much has been accomplished in what might be called community medicine. This is doctors joining their skills, their knowledge and their time in behalf of their communities of patients—in effect, organized medicine in the finest sense of the term.

It is these things that make this profession of ours a fine and spiritually rewarding experience.

Whenever the socio-economic and political side of medicine begins to look a bit grim to me, I have but to reflect a moment to feel deeply grateful that I am a doctor of medicine, in this country, in this day.

I will do all I can to preserve this.

2255 Van Ness Avenue, San Francisco, California 94109.

Polaroid Radiographs in a Neurosurgical Practice

ALBERT G. LOEW, JR., *LCDR, MC, USN*, Pasadena,
and CHARLES E. THOMPSON, *R.T.*, Pasadena

• The use of the polaroid rapid radiographic method has proven to be very useful in the field of neurosurgery as well as in other fields. It has many wide applications and is gaining increasing popularity. Its numerous advantages far outweigh its minor disadvantages.

THE POLAROID radiographic processor, which is gaining increased acceptance in neurosurgical practice, has been quite well discussed by Wise and Johnston[1] with regard to the general applications of this rapid technique, but its particular uses in neurosurgical practice have not been adequately dealt with.

The use of this method is very simple. The actual mechanics are similar to those of the well-known Polaroid Land camera. The picture is taken with standard radiographic equipment and a special grid cassette. The cassette is loaded with a film packet which contains the chemicals for developing the negative and paper for the final print. Following exposure the packet is removed and placed in the automatic processor which in just 10 seconds delivers a positive image on glossy white paper. As with ordinary polaroid prints, after the film is viewed it is "coated" to give a permanent print.

There are a number of technical advantages in this method. The packets do not have to be stored in darkness and the loading can be done without any darkroom precautions—in the operating room if necessary. By removing the reciprocating grid, the cassette can be used in any standard loading tray and within the cassette is a hinged intensifying screen, which suffices for the exposure. As the processing unit is small, it can be placed on a cart and moved to the area where films are being taken. Here again, no darkroom or other precautions are necessary except to keep unexposed film out of direct exposure. Plugged into the nearest electrical outlet, the processor extracts the print from the cassette and develops the image at the same time. In practice, the unit is usually placed just outside the door of the room in which the patient is being examined and a print is usually ready for viewing in less than one minute.

Besides producing x-ray images rapidly, the method has certain other advantages. Arteriograms and pneumoencephalograms are usually done under anesthesia and the use of the polaroid technique to get "scout" films not only reduces the amount of anesthesia needed but saves time for the physician and money for the patient.

Another advantage is the tendency to improve the quality of the work, since more films can be taken in a shorter time.[1] Also, inasmuch as the paper is much more sensitive than either the conventional or high-speed film, less radiation is required and hence less elaborate protection for the patient and the surgeons.

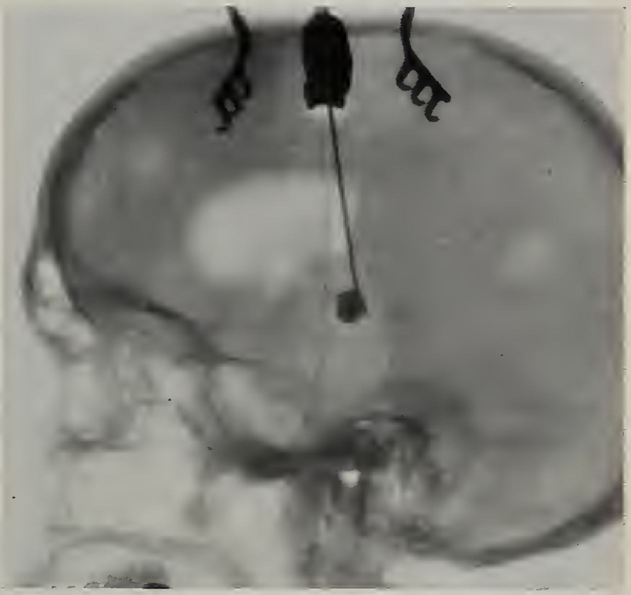
Figure 1.—Ventriculogram on Polaroid film showing air in the ventricular system and foramen of Munro as well as tip of the cannula.

Technically, the films show fair detail of the dense as well as soft tissue structures, which is usually sufficient since in general they are only used as "scout" films. As yet, the 10 x 12 inch size is the only one available, which may be a disadvantage in certain instances.

In neurosurgery, newer applications of this method seem to be almost limitless. In our practice all the neurosurgical procedures, both diagnostic and operative, are done in the operating room with the exception of routine lumbar punctures, nerve blocks, myelograms and discograms. Because of this arrangement, fluoroscopic and other radiographic adjuncts are not readily available, thus increasing the value of the polaroid technique. We first used it in

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From the Huntington Memorial Hospital, Pasadena.

Submitted October 21, 1963.

The opinions expressed in this article are those of the author and do not necessarily reflect those of the Navy Department.

doing stereotactic procedures for Parkinsonism. As can be seen in Figure 1, the detail of the air encephalogram is quite clear, showing the margins of the foramen of Munro and the tip of the Cooper cannula with the balloon inflated. As will be noted, there is a reversal of the normal radiographic appearance in that the dense structures appear dark and the soft tissues light. Some investigators[1] consider this a slight disadvantage, but with increasing experience this causes the reader little pause. Other uses include checking the position of the needles before injecting a contrast medium for cervical (Figure 2) discographic studies. The method has been especially helpful in providing rapid check films in angiographic procedures. Figure 3 is a film made after a small amount of radiopaque material was injected

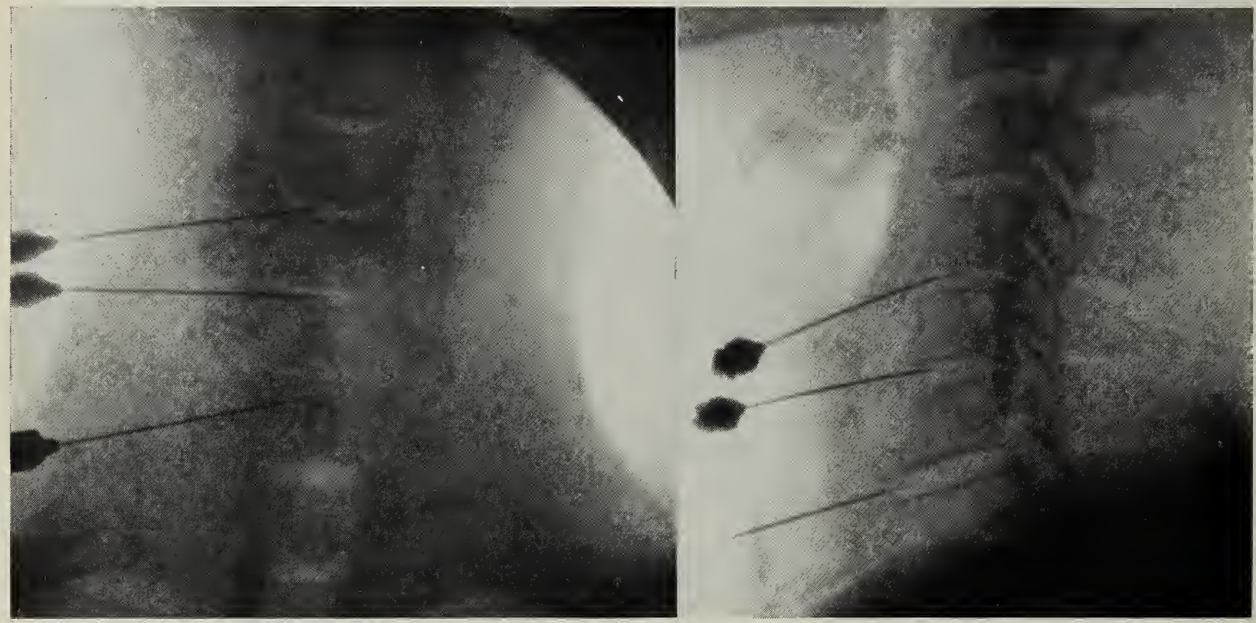

Figure 2.—Polaroid film used for a rapid check of needle position for injecting dye in discographic study.

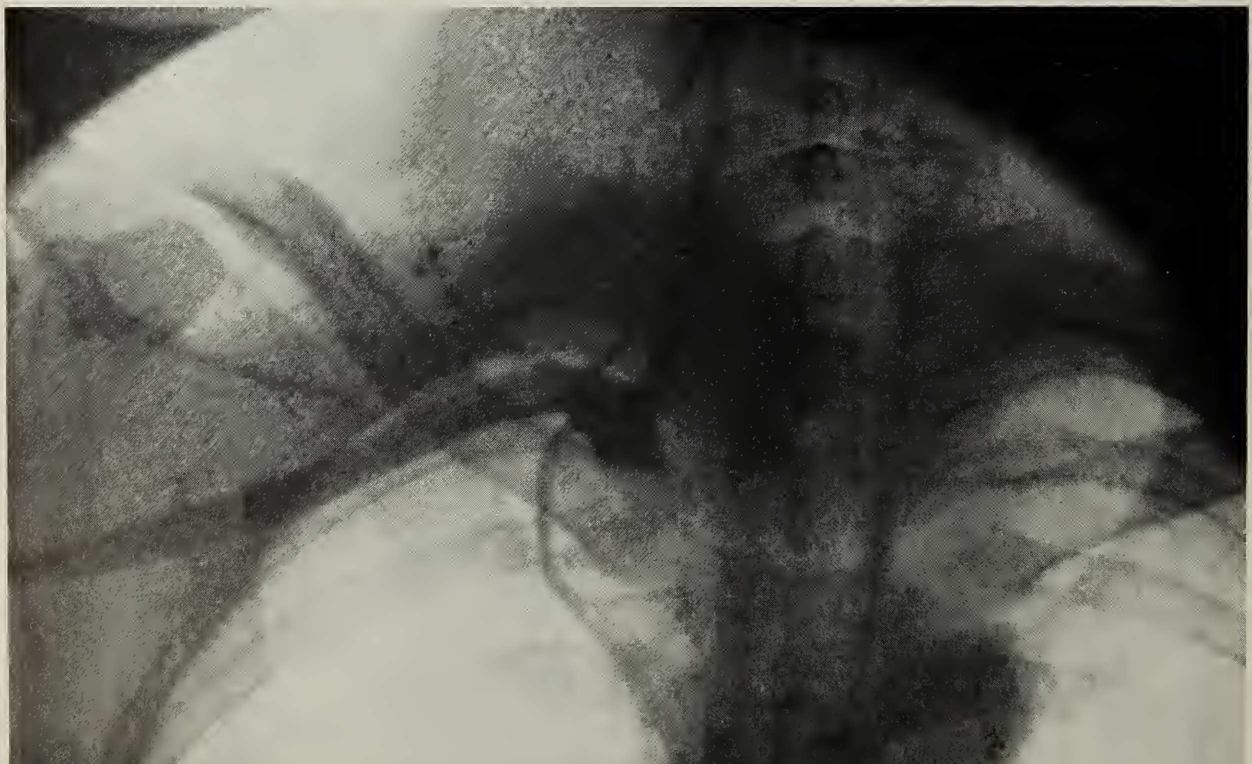

Figure 3.—Spot film to determine point of "take-off" of right vertebral artery before serial angiographic studies.

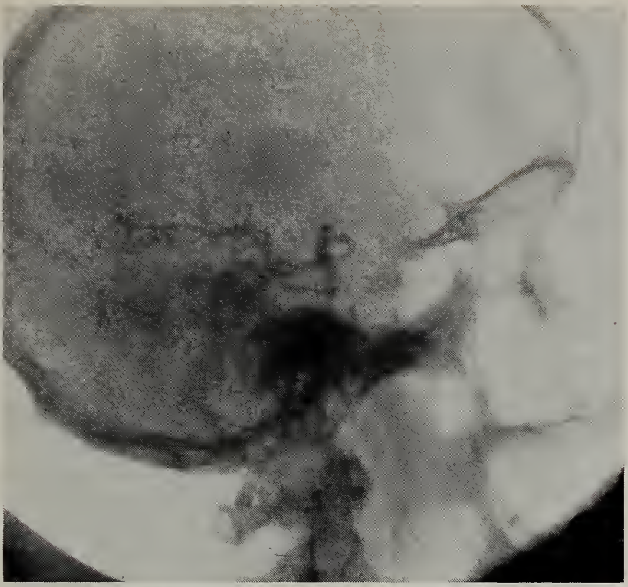

Figure 4.—Vertebral angiogram, lateral view, showing basilar artery and its branches.

into a catheter placed by a transbrachial route to demonstrate the "take-off" of the right vertebral artery as well as to check the flow into the vertebral artery. Unnecessary and costly serial radiographic exposures can thus be avoided. The same holds true for carotid and other arteriographic studies. We now use it almost routinely to get "bifurcation" views. Figure 4, a lateral view taken shortly after injection by a transbrachial catheter, shows good filling of the basilar artery and its branches.

Other areas in which the polaroid technique has been utilized have been in checking the position of the tip of the catheter in ventriculo-atrial shunts, in pneumoencephalograms to check for ventricular filling, and for localization at the time of operation. Using techniques similar to those for cervical discography, a needle can be placed under direct vision into an interspace to identify the correct level before doing an anterior interbody fusion.

Present address: U.S. Naval Hospital, Portsmouth, Virginia (Loew).

REFERENCE

1. Wise, R. E. and Johnston, D. O.: Rapid radiographic processing, Lahey Clinic Bulletin, 12:130, 1961.

Infection and Healing in Superficial Wounds

A Comparative Clinical Study of Topical Treatment Methods

ROBERT R. LAWRENCE, M.D., Lancaster

• The comparative value of nitrofurazone-hydrocortisone cream, of saline solution soaks and of a dry method of care in preventing or curing surface infections was studied in 86 patients. Of a total of 117 discrete lesions treated, 59 were infected, most of these being chronically infected decubital ulcers in paraplegic patients. The other lesions were burns, avulsive and wringer injuries, orthopedic surgical wounds and various abrasions. Excellent results were obtained with the nitrofurazone-hydrocortisone cream in infected lesions: infection rapidly cleared in all 37 lesions treated although only 29 healed completely and promptly. Five lesions were improved, and in three instances healing was unduly delayed. Among 22 infected lesions treated twice daily with saline solution soaks, only five were cured, two improved, seven had delayed healing, and eight had no improvement. In the non-infected wounds, saline soaks or plain dry care after surgical debridement and hexachlorophene cleansing gave results generally more comparable to those obtained in similar cases treated with the nitrofurazone-hydrocortisone cream.

In recent years, clinicians have encountered widespread drug-resistant strains of pathogenic bacteria which pose problems to the successful use of antimicrobial agents in clinical practice. In addition, clinicians must carefully evaluate the toxic or untoward reactions attributed to such drugs before administering them. Therefore, many physicians disagree regarding the use of antimicrobial agents in the prophylaxis of clean surgical wounds, some of them holding that the risks are often greater than the benefit. In 1961, Linton summarized the arguments for and against the prophylactic use of antibiotics in such circumstances.[2]

At the Los Angeles Orthopaedic Hospital we observed several instances of delayed healing of surgical wounds caused by infection despite the employment of strict aseptic technique. There were also cases in which similar wounds healed uneventfully. Prevention of infection is a crucial step in treating decubital ulcers in bedridden patients and in dealing with burns and contaminated abrasion wounds. The clinical study reported here involves a total of 85 patients with 117 discrete lesions comprising chronic decubital ulcers, pressure sores, wringer and avulsion injuries, burns, and abrasions. Of the 117 lesions, 59 were infected. The majority of the infected lesions were decubital ulcers in paraplegic patients. The infections in these cases had been present for periods of from a few days to as long as eight months. Also included among the infected lesions were amputation stumps, infections under casts following orthopedic operations, and abrasions that had dirt particles ground deeply into the tissues as often occurs following traffic accidents.

After careful surgical debridement and cleansing, the wounds were washed with hexachlorophene or other suitable solution. Severe and deep or obviously infected lesions were then treated with topical applications of nitrofurazone-hydrocortisone cream* or with saline solution soaks twice daily. An attempt was made to treat several series of wounds comparable in extent and severity. In six patients with a total of 16 lesions, the treatment routine was varied by using the nitrofurazone-hydrocortisone cream on one or more of the lesions and treating the other similar lesions with saline solution soaks. In most instances, the bandages were changed twice daily.

In vitro sensitivity tests were conducted for 59 bacterial strains isolated from the infected lesions. Virtually all the organisms implicated were strains of *hemolytic Staphylococcus aureus.* The disk method was used to test the bacteria for sensitivity to nitrofurazone as well as to five antibiotic agents.

The progress of healing was evaluated primarily by clinical criteria, but in addition photographs were taken before and after treatment of several typical cases to aid in the interpretation of results. Photographs were thus taken of wounds treated with the nitrofurazone-hydrocortisone cream, of those treated with saline solution soaks, and some cases of more superficial abrasions which were simply permitted to dry after debridement and washing with hexachlorophene solution. Clinical results were classified in four categories: "Cured," "improved," "unduly delayed healing," and "failure to heal." In general, the latter term was used to indicate evidence of infection or exacerbation of infection or definite worsening of the lesion.

Table 1 shows the number of lesions treated with each technique and the results obtained in each

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*Furacin-HC Cream, Eaton Laboratories, Norwich, N.Y.

From Orthopaedic Hospital, Los Angeles.
Submitted October 29, 1963.

TABLE 1.—*Results of Three Kinds of Treatment of Superficial Wounds to Prevent or Abate Infection*

Treatment	Cured	Improved	Delayed	Failed	Total
Nitrofurazone-hydrocortisone cream	51	6	3	....	60
Saline solution soaks	11	4	7	8	30
Left dry	14	12	1	....	27
Total	76	22	11	8	117

group. We found that the nitrofurazone-hydrocortisone cream treatment rapidly eliminated the infection in every case where infection was present at the start of treatment. However, as is apparent from the table, this did not necessarily produce smooth healing of the lesion in all cases. The infection was also eliminated in several patients treated with saline solution soaks, but there were also several failures to heal in this group and the over-all results were inferior to those in the nitrofurazone-hydrocortisone group. A number of infections treated with saline solution soaks persisted until the end of the study.

Among the cases of abrasion, only those of a severe nature were treated with either the nitrofurazone-hydrocortisone cream or saline solution soaks; superficial abrasive wounds were often left dry unless severely contaminated. In these cases also, the chemotherapy group showed better results: No infections developed in that group during the course of the study, but infections did occur in several patients treated with saline solution soaks. Results of treatment were striking in severe abrasions where dirt had been ground deeply into the skin. The nitrofurazone-hydrocortisone treated group showed significantly better results with no incidence of infection. On the other hand, superficial abrasions of those areas of the skin which had an excellent blood supply responded well to an initial washing with a solution such as hexachlorophene, or with plain sterile water, and then no further treatment.

There was no significant change in drug sensitivity of the various strains isolated before and after treatment. These patients did not receive antibiotics during the study. None of the bacterial strains developed resistance to nitrofurazone during treatment. This agrees with laboratory[4] and clinical[3] observations indicating that bacteria do not develop a significant degree of resistance to this chemotherapeutic agent. It was interesting to note, on the other hand, that a large proportion of bacterial strains were resistant to the antibiotics tested.

All the 59 strains isolated from the infected lesions were sensitive to nitrofurazone; 51 were sensitive to bacitracin or chloramphenicol, 52 to neomycin, 36 to tetracycline, and 31 to penicillin. Only 27 of the 59 strains were sensitive to all the six antimicrobial agents tested. One strain was resistant to all five of the antibiotics and sensitive only to nitrofurazone.

DISCUSSION

Many dermatologists have expressed concern regarding the sensitizing properties of nitrofurazone, especially in decubital ulcers or other lesions with poor supply of blood. From our experience, we believe that this drug is excellent for short-term use. In this study, the longest period that any patient was treated with nitrofurazone was five weeks, and in none of them did an untoward reaction develop that could be interpreted as a manifestation of sensitivity. Local or generalized rash is the usual manifestation of nitrofurazone sensitivity, although the incidence in different studies has varied considerably.[1,3,5] Where the preparation was used prophylactically, the lesions healed without incident. Although *Staphylococcus aureus* was the predominant organism in the present series, mixed infections were also eradicated with the preparation. In only one case, in which nitrofurazone was used for treatment of ulcers on the foot of a woman whose legs were paralyzed, did the ulcers not disappear, and this was probably ascribed to the lack of sensation in the extremity treated and the patient's inability to keep off her foot. Even so, the infections were eradicated.

In cases of superficial abrasions, washing with mild hexachlorophene solution, with saline solution or just plain soap and water would seem to be sufficient. When dirt is ground deeply into a wound, the use of an antibacterial steroid preparation such as the one used in this study would seem to be indicated, even after all necessary debridement and cleansing. Of secondary importance, but of interest to the prescribing physician, is patient acceptance. No patient treated with the nitrofurazone-hydrocortisone cream complained about the medication. Several patients even inquired as to where they could obtain this preparation to keep at home for use on future infections.

1316 West Avenue J, Lancaster, California 93534.

REFERENCES

1. Johnson, H. M.: Dermatologic evaluation of yeast, tyrothricin, chlorophyll, and nitrofurazone, A.M.A. Arch. Derm., 57:348-356, Mar. 1948.

2. Linton, R. R.: The prophylactic use of the antibiotics in clean surgery, Surg. Gyn. Obst., 112:218-220, Feb. 1961.

3. MacLeod, P. F., Rogers, G. S., and Anzlowar, B. R.: The nitrofurans in clinical medicine, Internat. Rec. Med., 169:561-571, Sept. 1956.

4. Paul, H. E., Harrington, C. M., Bender, R. C., and Briggs, W. P.: Resistance and cross resistance of bacteria to nitrofurans, Proc. Soc. Exp. Biol., 79:199-204, Feb. 1952.

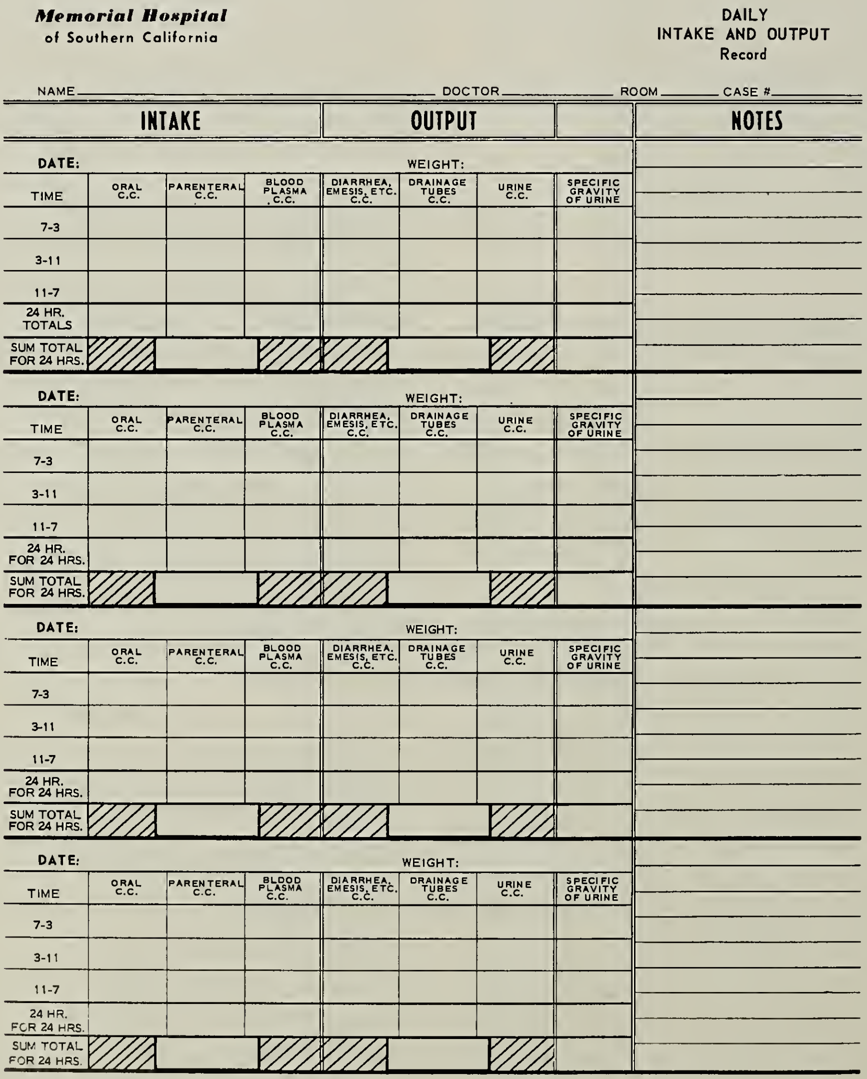
5. Weiner, A. L., and Fixler, Z. C.: Topical use of nitrofurazone (Furacin®) for bacterial dermatitides. Effectiveness of therapy and incidence of hypersensitivity reactions, J.A.M.A. 169:346-347, Jan. 24, 1959.

Fluid Balance—Intake and Output Charts

HARRY PERELMAN, *M.D.*, Los Angeles

IN CRITICALLY ill patients it becomes very important to accurately record fluid intake and output for proper evaluation and control of fluid balance. Unfortunately, in many instances lack of proper supervision and charting by the attendants or nurses results in erroneous reports of this information. The intake and output charts of some hospitals are wholly inadequate for determining fluid balance. To overcome these shortcomings, a new chart was prepared which incorporates most of the commonly needed data and allows adequate room for recording it. It is recognized that, although electrolyte balance should be monitored as closely as fluid balance, the new chart has no formal provision for recording intake and output of electrolytes; but the needed data can be recorded in the "Notes" column so that it is available on the same form if desired. It was felt that for simplicity, it would be much better to omit additional columns and lines on these charts in order to avoid confusing those who normally record the fluid intake and output amounts.

Two types of charts were prepared. One serves for a daily 24-hour record (Chart 1) and four days can



Memorial Hospital
of Southern California

DAILY
INTAKE AND OUTPUT
Record

NAME________ DOCTOR________ ROOM________ CASE #________

INTAKE				OUTPUT				NOTES
DATE:				WEIGHT:				
TIME	ORAL C.C.	PARENTERAL C.C.	BLOOD PLASMA C.C.	DIARRHEA, EMESIS, ETC. C.C.	DRAINAGE TUBES C.C.	URINE C.C.	SPECIFIC GRAVITY OF URINE	
7-3								
3-11								
11-7								
24 HR. TOTALS								
SUM TOTAL FOR 24 HRS.	▨		▨	▨		▨		
DATE:				WEIGHT:				
TIME	ORAL C.C.	PARENTERAL C.C.	BLOOD PLASMA C.C.	DIARRHEA, EMESIS, ETC. C.C.	DRAINAGE TUBES C.C.	URINE C.C.	SPECIFIC GRAVITY OF URINE	
7-3								
3-11								
11-7								
24 HR. FOR 24 HRS.								
SUM TOTAL FOR 24 HRS.	▨		▨	▨		▨		
DATE:				WEIGHT:				
TIME	ORAL C.C.	PARENTERAL C.C.	BLOOD PLASMA C.C.	DIARRHEA, EMESIS, ETC. C.C.	DRAINAGE TUBES C.C.	URINE C.C.	SPECIFIC GRAVITY OF URINE	
7-3								
3-11								
11-7								
24 HR. FOR 24 HRS.								
SUM TOTAL FOR 24 HRS.	▨		▨	▨		▨		
DATE:				WEIGHT:				
TIME	ORAL C.C.	PARENTERAL C.C.	BLOOD PLASMA C.C.	DIARRHEA, EMESIS, ETC. C.C.	DRAINAGE TUBES C.C.	URINE C.C.	SPECIFIC GRAVITY OF URINE	
7-3								
3-11								
11-7								
24 HR. FOR 24 HRS.								
SUM TOTAL FOR 24 HRS.	▨		▨	▨		▨		

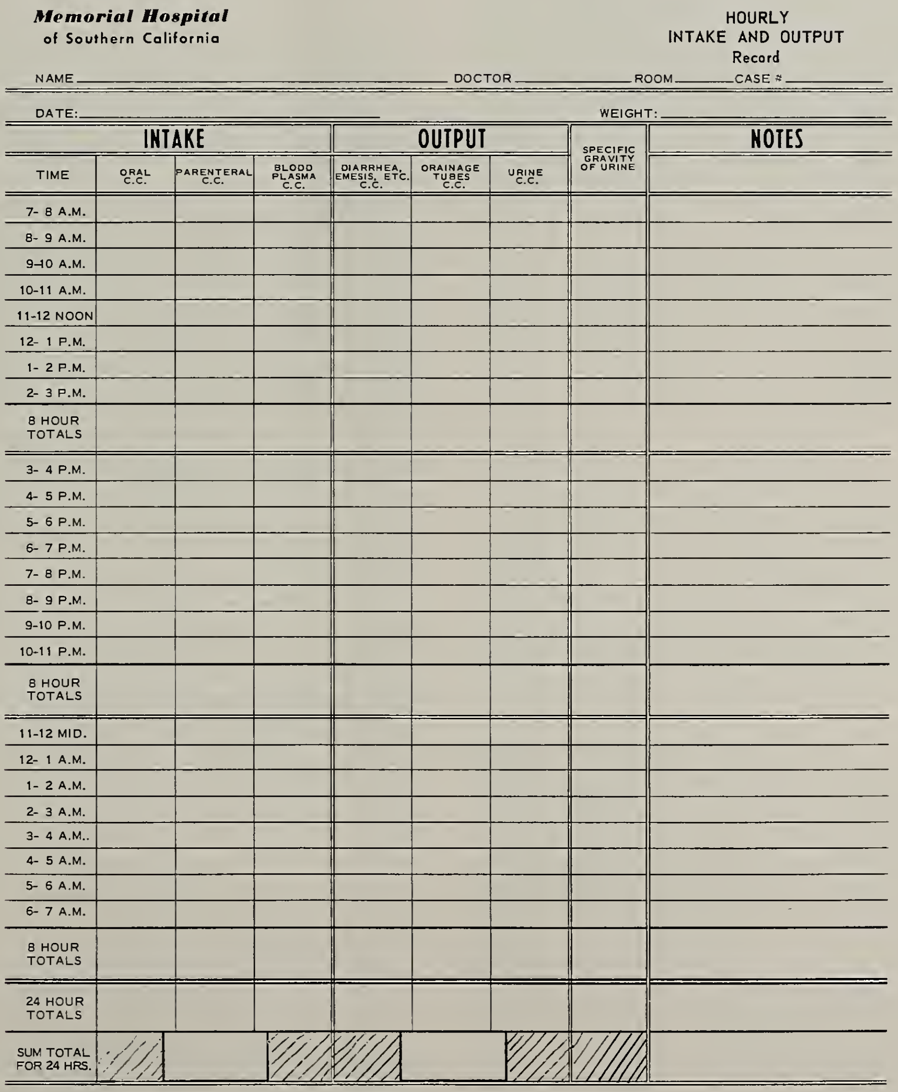
From the Department of Surgery, Memorial Hospital of Southern California, Culver City.

Submitted August 15, 1963.

be recorded on a single page. For uncomplicated fluid balance problems this chart has been found adequate. For critically ill patients, however, an hourly chart (Chart 2) was devised, one sheet being required for a single day's records. Both forms have the same subdivisions to avoid confusion. At a glance, one can determine the intake and output totals (and the routes) for 8-hour or 24-hour periods. Space is allowed on the forms ("Notes" column) for recording types of fluids administered, diet taken, chemistry reports or any other pertinent data as desired. Electrolyte intake and output can also be recorded in this section. In the hourly form this data can be recorded on the appropriate line each hour. The column headings are those which we have found most useful and represent the most commonly needed data. Variations may be necessary for special purposes. These can be written onto the chart in the "Notes" column or one of the column headings can be changed appropriately. Some physicians may disagree with use of the column "Blood and Plasma," perhaps contending that blood transfusions are part of the patient's daily fluid intake. However, for simplicity and to eliminate confusion, it was felt best to incorporate data on blood and plasma in the "intake" section but in a separate column so that it would be distinct from other parenteral fluid intake. Then the amount of blood transfusion on any particular day could be subtracted from the total intake recorded, if that were desired. The division of the charts into 8-hour periods starting at 7:00 a.m., 3:00 p.m. and 11:00 p.m. was done to correspond with each nursing shift. These charts have now been in use at the Memorial Hospital of Southern California for over two years and have been found quite satisfactory.

6010 Wilshire Boulevard, Los Angeles 90036.

This work was aided by a grant from the Isaac Brotman Foundation of the Memorial Hospital of Southern California, Culver City.



Memorial Hospital
of Southern California

HOURLY
INTAKE AND OUTPUT
Record

NAME ______ DOCTOR ______ ROOM ______ CASE # ______

DATE: ______ WEIGHT: ______

	INTAKE			OUTPUT			SPECIFIC GRAVITY OF URINE	NOTES
TIME	ORAL C.C.	PARENTERAL C.C.	BLOOD PLASMA C.C.	DIARRHEA, EMESIS, ETC. C.C.	DRAINAGE TUBES C.C.	URINE C.C.		
7- 8 A.M.								
8- 9 A.M.								
9-10 A.M.								
10-11 A.M.								
11-12 NOON								
12- 1 P.M.								
1- 2 P.M.								
2- 3 P.M.								
8 HOUR TOTALS								
3- 4 P.M.								
4- 5 P.M.								
5- 6 P.M.								
6- 7 P.M.								
7- 8 P.M.								
8- 9 P.M.								
9-10 P.M.								
10-11 P.M.								
8 HOUR TOTALS								
11-12 MID.								
12- 1 A.M.								
1- 2 A.M.								
2- 3 A.M.								
3- 4 A.M..								
4- 5 A.M.								
5- 6 A.M.								
6- 7 A.M.								
8 HOUR TOTALS								
24 HOUR TOTALS								
SUM TOTAL FOR 24 HRS.	▨		▨	▨		▨	▨	

Intra-Oral Cancer

The Use of Skin Grafts in the Management of the Condition

GEORGE S. SHARP, *M.D.*, and JAMES T. HELSPER, *M.D.*, Pasadena

• Seventy-two patients with 78 intra-oral cancers were treated by surgical excision and repair was carried out with free split-thickness skin grafts. Examination of removed specimens confirmed the precancerous character of the surrounding mucous membranes and emphasized the importance of removing them completely if that is practical. With the free skin graft this wider excision is possible with less impairment of function. It may also prevent the questionable "local recurrence" or second primary adjacent to the scar, and even multiple primaries in the same region of the oral cavity.

USE OF FREE skin grafting for resurfacing all denuded areas inside the mouth after removal of intra-oral cancers has become a significant part of the management of patients with such lesions.[2-6,13] In the past, the excision was usually limited to the least amount of tissue consistent with a "safe" margin and primary closure was the main objective regardless of the best functional result. Now the use of free grafts has made it possible for the excision to encompass a much larger surface area, and pathologic study of these surrounding mucous membranes has demonstrated that such tissues, in varying extent, should be included routinely in the specimen. Also, with such grafts we have been able to overcome the impaired function resulting from a more local excision and primary closure.

The wider surface excisions, incorporating both cancerous and precancerous mucous membranes, have a bearing on two problems that have been encountered with more limited removal: (1) the frequency of a so-called recurrence within or at the border of the removal, and (2) the development of new primary lesions in an area 1 to 2 cm from the original surgical scar.

MATERIAL

Since 1958 we have performed wide removal of primary lesions with the surrounding abnormal mucous membranes on 72 patients. One of the patients had three simultaneous primary lesions, and three patients had two. Thus free skin grafts were used for repair of a total of 78 cancers in 72 patients. In only one case has a second primary subsequently developed.

The sites of primary intra-oral lesions in this series conformed to the generally reported distribution on the seven oral surfaces. Of 62 lesions inside the mouth, 45 (72.5 per cent) involved the tongue, the floor of the mouth and the gingiva, and the remaining 17 were found on the hard palate, buccal surfaces, tonsil, and soft palate. All the 16 extra-oral lesions involved, by direct invasion, the bones of the face. The sites were: Maxilla, 6; antrum, 3; mandible, 3; skin, with osseous invasion, 3; and naris, 1.

The dimensions of the cancers were quite varied. Nine were approximately 1 cm in diameter, ten were 2 cm, twenty-one were 3 cm, ten were 4 cm, eighteen were 5 cm and ten were 6 cm in diameter or slightly larger. The ten largest lesions either arose primarily in the maxilla or invaded it secondarily. Fifty-nine (76 per cent) of the lesions were between 3 and 6 cm in diameter, and the remaining 19 (24 per cent) were relatively small—up to 2 cm. The surgical specimens of most of the lesions up to 3 cm in diameter were 2 or 3 times the diameter of the primary tumors.

Cervical node metastasis was secondary and an infrequent occurrence. Sixty-two of the intra-oral carcinomas were capable of such metastasis, but clinically palpable cervical nodes were associated with only 12 of them, and in only six of these 12 cases were the nodes observed on microscopic examination to be involved. Neck dissection was done simultaneously with removal of the primary lesion in four cases and in the remaining eight it was done subsequent to the grafting, from one to eighteen months after the primary operation.

CLINICAL FEATURES

Since Butlin and Spencer in 1900[1] first emphasized leukoplakia as a precursor of carcinoma, reports have stressed this condition and its importance

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From the Pasadena Tumor Institute and the Pasadena Foundation for Medical Research, Pasadena.

Assistant clinical professor of surgery, School of Medicine, and professor of pathology, School of Dentistry, University of Southern California (Sharp); assistant clinical professor of surgery, School of Medicine, Loma Linda University (Helsper).

Presented at the Annual Meeting of the James Ewing Society, New York, N.Y., April 1963.

Submitted August 1, 1963.

as a major precancerous state.[7-9] Today the significance of these hyperkeratotic changes in mucous membranes around primary lesions is generally accepted. In 1953, Slaughter, Southwick and Smejkal[14] reported on a large series of patients with intra-oral carcinoma and described abnormal mucous membranes beyond the margins of the lesions. In their concept of "field cancerization" they described leukoplakia, atrophy and carcinoma *in situ* associated with all intra-oral carcinomas.

In a previous study[8] one of the authors of the present communication reported certain abnormal states in the mucous membranes immediately surrounding many intra-oral lesions. The cardinal signs included a combination of contrasting extremes, varying from (a) generalized pallor to diffuse erythema, (b) a lack of normal keratinization to a hyperkeratotic thickening, and (c) atrophy of the filiform papillae to hypertrophy of the fungiform papillae on the tongue.

In a more recent study of 100 patients with intra-oral carcinoma,[10] the most frequent mucosal abnormalities observed were atrophy and hyperkeratosis. We considered these pathological states to have been precursory to the carcinoma and to have provided a setting conducive to it. Mucosal atrophy was the most common alteration in over 75 per cent of these patients. This appears as a smoothness and thinning of the mucous membranes and, in the extreme, it is evident in women in Plummer-Vinson syndrome. Carcinoma *in situ* appears on an almost transparent mucosa, with a prominence of the blood vessels and often a slight erosion. The other oral surfaces are atrophic and usually the buccal surfaces are pallid. A shiny, smooth tongue is associated with the most advanced form of atrophy.

Hyperkeratinization, in the form of simple keratosis or leukoplakia or a combination of these conditions was observed on the atrophic mucous membranes. This led us to believe that atrophic mucous membranes are the primary precancerous state; that these membranes react abnormally to the normal traumas of the mouth; and that this results in the formation of leukoplakia or carcinoma or both. The clinical rationale for wide excisions, we believe, is also demonstrated and supported by conditions observable microscopically on examination of the surrounding mucous membranes.

HISTOPATHOLOGY

The histological diagnoses in the present series of 72 patients fell into nine categories. The distribution of types was uneven, with 61 squamous cell carcinomas, four carcinomas of minor salivary gland origin (two adenoid cystic and two mucoepidermoid), and three basal cell carcinomas arising primarily in the skin. Of the five remaining tumors of epithelial origin, four were ameloblastomas and one a melanocarcinoma of the mucosa of the hard palate. There were in addition, three fibrosarcomas of bone, one primary reticulum cell lymphosarcoma and one fibromyxoma.

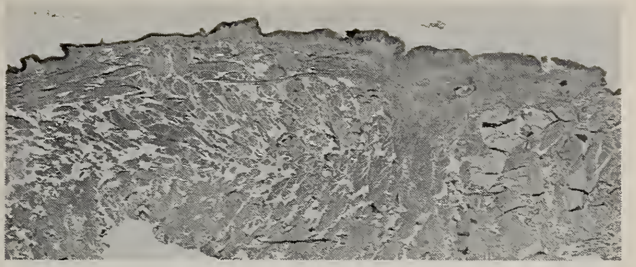

Figure 1.—Note the extreme mucosal atrophy extending to the edges of the surgical specimen of a minute invasive carcinoma (× 4.5).

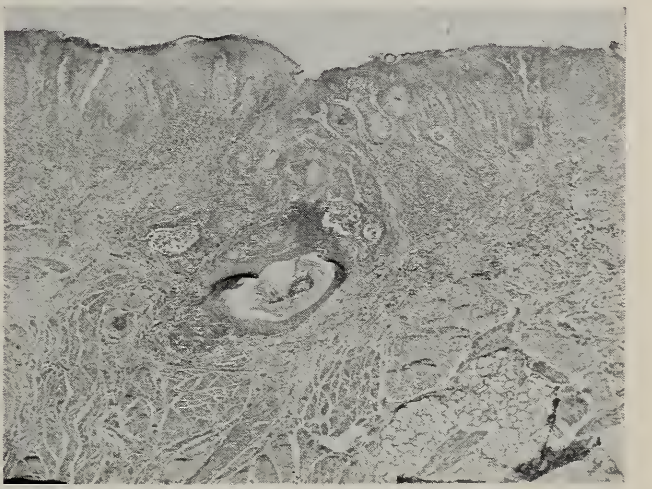

Figure 2.—A high power magnification (× 20) of the carcinoma in Figure 1, showing the adjacent inflammation, fibrosis and hyperplasia on mucosal atrophy.

Abnormal mucous membranes around the periphery of primary carcinomas have been described histologically.[7,14] As the larger excisions that we now do include all the surrounding abnormal mucous membranes, we have had opportunity to study microscopically various structural alterations such as atrophy with fibrosis and inflammation, hyperplasia with fibrosis, carcinoma *in situ*, and carcinoma. Figure 1 is a panoramic view of the cellular changes that occur near a minute carcinoma and at a distance from it. Figure 2 is a high power view of the same carcinoma. Recently by means of oral exfoliative cytology through the collection of specimens with a special mouthwash,[11] we have obtained further evidence of a relationship of atrophy and hyperkeratotic changes to carcinoma.

TREATMENT

The management of oral cancer by surgical operation always includes the problem of an anatomical defect and usually a functional disability as well, since all the excisions of the lower half of the oral cavity involve part of the tongue. Closure of the defect requires the suturing of the tongue to the gingiva or floor of the mouth and thus alters the normal functions of the oral cavity in speaking and eating.

We have previously reported a tongue-releasing procedure which alleviated some of the functional distress.[12] Since 1958, however, in most of our patients primary repair has been done with the use of extensive free skin grafts instead of the previously described delayed procedure, and the functional result appears to be even better, with a return of normal speech and swallowing.

In 60 of the 72 patients in the present series, we did the initial operation and in the other 12 the procedure was for removal of recurrent lesions—after previous operation in eight instances and after radiation therapy in four. The grafting procedure was as satisfactory for the recurrent tumors as for the primary lesions.

The radical extent of the excisions may be illustrated by the number of oral surface areas included in the surgical specimens. In 15 instances the excision was confined to one area, such as the tongue, the floor of the mouth or the buccal surface. Removal from two surface areas, such as the tongue and floor of the mouth, the floor of the mouth and gingiva, or gingiva and buccal mucosa, was required in 26 cases. In 33 cases three surface areas were involved—for example, the tongue, floor of the mouth and gingiva, or floor of the mouth, gingiva and buccal mucosa. For the remaining four cases extensive radical excision was necessary, the oral cavity being closed with free skin grafts.[6]

The use of split-thickness skin grafts increases the practicability of a wider removal of abnormal mucous membranes surrounding the primary lesions. The stent technique was employed on all of the patients except two who had grafts on the dorsum of the tongue. The stent is composed of Cornish wool, fashioned in the approximate size and shape of the graft. The interrupted sutures used to sew the edges of the graft in place are left long and are then tied over the stent. Occasionally, where large relatively flat areas are grafted, as in the buccal mucosa, a stiffener is incorporated in the stent by using dental compound covered with Cornish wool. In the two instances where the dorsum of the tongue was grafted, basting sutures were used over the surface to tie the graft to the muscle.

The stent is removed in five to seven days. All patients are maintained on tube feedings while the stent is in place, and occasionally for an extra day. Patients are then started on fluids, with frequent oral irrigations of salt and soda, and the diets are gradually advanced. Since aseptic conditions cannot be provided for operations inside the mouth, the majority of the patients are treated with penicillin-streptomycin combinations. A few are given tetracyclines.

Sometimes an apparent desquamation of the entire graft is observed at the end of ten days to two weeks. However, within three weeks small islands of skin are visible and they begin to coalesce. In five or six weeks there is a firm, completely healed area, covered with normal-appearing skin. At first the graft is abnormally firm and wrinkled. With massage, gradual mobilization returns and after six months the normal suppleness of the area is regained.

DISCUSSION

Certainly not all patients surgically managed for intra-oral cancer are candidates for skin graft resurfacing. The authors believe the following would present the indications for its use:

1. Minute or superficial carcinomas with surrounding widespread precancerous mucosal changes.

2. Primary carcinomas of the floor of the mouth and gingiva where there is only periosteal or alveolar bone involvement and the graft closure permits the preservation of the mandibular arch. (In this situation the procedure is particularly advantageous.)

3. Cases in which primary closure would result in a poor functional result, such as (a) in the hard and soft palate; (b) following subtotal and total maxillectomy; (c) in prosthetic reconstruction to provide a sulcus after removal of the side of the tongue, the floor of the mouth and the gingiva; and (d) in the closure of large wounds after extensive radical operation where additional functional improvement may be expected from the use of a graft.

Contraindications for skin graft closures are:

1. Situations such as may occur with "de nouveau" carcinomas, where the mucous membranes around the primary lesions appear normal and adequate safe excision can be accomplished without extensive removal of mucous membrane.

2. The presence of so much radiation fibrosis following extensive radiation therapy that it is impossible to obtain a healthy tissue surface for the graft.

3. Advanced age or disease so serious that the added operation for graft closure would present a hazard.

Pasadena Tumor Institute, 635 East Union St., Pasadena 91101 (Sharp).

REFERENCES

1. Butlin, H. T., and Spencer, W. G.: Diseases of the Tongue, 2nd ed., London, Cassell & Co., Ltd., 1900.

2. Conley, J. J.: Free skin grafting in the sinus, oral, and pharyngeal areas in radical surgery of the head and neck, Cancer, 7:444-454, 1954.

3. Conley, J. J.: A technique of skin grafting to the tongue and case report, Plast. & Recon. Surg., 5:450, 1950.

4. Edgerton, J. T., Jr.: Replacement of lining to oral cavity following surgery, Cancer, 4:110-119, 1951.

5. Esser, J. F.: Studies in plastic surgery of the face. I. Use of skin from the neck to replace face defects. II. Plastic operations about the mouth. III. The epidermic inlay, Ann. Surg., 65:297-315, 1917.

6. Fister, H. W., and Sharp, G. S.: The intra-oral use of the free split-thickness skin graft in commando-type procedures. Presented at the Annual Meeting of the Society of Head and Neck Surgeons in Bermuda, April 29 to May 1, 1963.

7. Martin, H., and Koop, C. E.: Precancerous mouth lesions of avitaminosis B; their etiology, response to therapy and relationship to intra-oral cancer, Am. J. Surg., 57:195-225, 1942.

8. Sharp, G. S.: Abnormal mucous membranes as related to oral cancer, Acta Unio Internat. Contra Cancrum, 12:135-139, 1956.

9. Sharp, G. S., Bullock, W. K., and Helsper, J. T.: Multiple oral carcinomas, Cancer, 14:512-516, 1961.

10. Sharp, G. S., and Hazlet, J. W.: Premonitory mucosal symptoms and signs of oral carcinoma, Dental Radiog. & Photog., 33:47-53, 1960.

11. Sharp, G. S., Helsper, J. T., and Bullock, W. K.: Exfoliative cytology for the detection of abnormal mucous membranes and early carcinoma, Oral Surg. Oral Med. & Oral Path., In press.

12. Sharp, G. S., Helsper, J. T., and Hazlet, J. W.: A simple effective tongue-releasing procedure for the "post-commando" patient, Surgery, 48:1085-1089, 1960.

13. Slanetz, C. H., Jr., and Rankow, R. M.: The intra-oral use of split-thickness skin grafts in head and neck surgery, Am. J. Surg., 104:721-726, 1962.

14. Slaughter, D. P., Southwick, H. W., and Smejkal, W.: "Field cancerization" in oral stratified squamous epithelium. Clinical implications of multicentric origin, Cancer, 6:963-968, 1953.

Perinatal Death

A Clinicopathological Analysis of 99 Cases

CHARLES F. WRIGHT, *M.D.*, GLORIA A. MEDENILLA, *M.D.*,
and SHELDON C. SOMMERS, *M.D.*, La Jolla

INVESTIGATION of perinatal mortality has received considerable support from public health agencies, and large numbers of cases studied at specialized lying-in hospitals have been reported;[4,7,10] but in the community and general hospitals where most people in the United States are now born, it is a relatively neglected field. Statistics on neonatal autopsy examinations are recorded separately in reports to the American Medical Association, suggesting that they are in some way inferior to other autopsies, and the placentas are mostly frozen and processed commercially for chorionic gonadotropin, so that few reach the laboratory for examination.

This would not be important if perinatal mortality rates were declining rapidly, but they are not, as is shown by a tabulation of all deaths of babies weighing over 400 gm. For example:

	Live Births
Chicago Lying-In Hospital (1951-1956)	29.8 per 1,000
Scripps Memorial Hospital (1957)	26.9 per 1,000
Scripps Memorial Hospital (1958)	26.3 per 1,000
Scripps Memorial Hospital (1962)	25.9 per 1,000

The present study was undertaken to analyze the accuracy of the diagnoses made in perinatal deaths and, if possible, to answer the questions:

1. How often is there a failure to make any clinical diagnosis of the cause of death, and how often is the clinical diagnosis correct?
2. How often is the autopsy diagnosis conclusive or inconclusive?
3. How often is a placental examination conclusive, contributory or inconclusive in understanding the cause of death?
4. Should all placentas be examined grossly and microscopically to obtain information regarding problems that may not be clinically evident in the newborn?

For this purpose, the records of perinatal mortality cases with autopsy examinations at a general hospital for a ten-year period (1950-1959) were analyzed by an obstetrician and a pathologist, concerning the clinical history, clinical diagnosis, autopsy and placental pathological findings and the combined usefulness of these items in substantiating or refuting the clinical diagnosis. Records of 99 cases were available, and 39 placentas were examined from this group. In addition all of the 225 placentas that had been examined pathologically during the same period were reviewed.

• The findings at autopsy in 99 cases of perinatal deaths in a ten-year period and on pathologic examination of the accompanying placentas in 39 cases were analyzed clinicopathologically. Also reviewed were the pathologic diagnoses of 225 placentas that were examined for causes other than neonatal death. Cardiovascular and pulmonary problems, particularly hyaline membrane disease, atelectasis and cardiac anomalies were most common. Asphyxia, heart failure and premature placental separation were the most frequent causes of death. In slightly more than half of the cases a reasonable final diagnosis was established by autopsy, and if the placenta was examined, nearly two-thirds could be properly classified. In the remaining 37 per cent, as previously reported in larger series, neither the autopsy nor placental examinations disclosed a satisfactory explanation of the perinatal death.

The routine autopsy procedure included recording body length and weight, the gross weights of heart, lungs, spleen, liver, adrenal glands, kidneys, thymus and brain. Sections were studied from these organs as well as from the pancreas, gonads, accessory sex organs, thyroid, pituitary and bone marrow. Weight and size of the placenta were recorded, and two or three microscopic sections were examined to investigate the marginal sinus, membranes, decidua and chorionic villi.

Five tables were prepared that listed (1) the major autopsy findings, (2) the immediate cause of death assigned by the pathologist, (3) the placental pathologic diagnosis from cases in which autopsy was done, (4) the pathological diagnosis in the cases of all the 225 placentas examined, and (5) the clinicopathological correlations. For comparison the findings in three larger series are also given.[4,6,10]

The clinical diagnosis was correct, as judged by autopsy, in 40 of the 99 cases. The autopsy proved diagnostically conclusive in about 54 per cent of the cases, a lower figure than anticipated. Thirty-nine

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From the Departments of Obstetrics and Pathology, Scripps Memorial Hospital, La Jolla.

Submitted September 19, 1963.

TABLE 1.—*Major Autopsy Findings in Cases of Perinatal Death*

Autopsy Findings	Present Series 99 Cases	Stowens[10] 5,349 Cases No.	Per Cent	Potter[4] 526 Cases No.	Per Cent	Reid[6] 561 Cases No.	Per Cent
Hyaline membrane disease	12	667	12	56	11	134	24
Atelectasis	9	37	1	9	<2	....	....
Cardiovascular anomalies	9	619	12	*	....	....	....
Ventricular septal defects	5	199	....	....	....	....	....
Atrial septal defects	1	134	....	....	....	....	....
Coarctation of aorta	2	47	....	....	....	....	....
Transposition great vessels	1	....	....	....	....	....	....
Intracranial hemorrhage	6	300	6	14	3	....	....
Subarachnoid hemorrhage	3	....	....	....	....	....	....
Cerebral hemorrhage	3	....	....	....	....	....	....
Bronchopneumonia	4	648	12	21	4	75	13
Erythroblastosis fetalis	4	217	4	44	8	....	....
Immaturity	4	807	15	....	....	....	....
Meningitis	4	†196	4	....	....	....	....
Renal Agenesis	2	62	1	*	....	....	....
Hydrocephalus	2	217	4	*	....	....	....
Polycystic kidneys	2	90	2	*	....	....	....
Meningocele	2	153	3	*	....	....	....
Meconium peritonitis	2	27	<1	....	....	....	....
No abnormality or inconclusive	37	2080	39	194	37	....	....

*Total malformations 70 (13%), compared with 17 cases in the present series.
†Includes encephalitis, meningoencephalitis, etc.

placentas examined as a part of autopsy study provided a conclusive or contributory diagnosis in 19 cases (49 per cent). The placental examination was as helpful as the autopsy in establishing the cause of death (Tables 1, 2 and 3).

As shown in Table 1, approximately 38 per cent of the major autopsy findings were of cardiovascular or respiratory conditions that resulted in anoxia. This was comparable with about 41 per cent in Potter's series,[4] 43 per cent of Stowens' material[10] and over 37 per cent in Reid's series.[1,6]

Hyaline membrane disease (respiratory distress syndrome)[3] made up the largest single group, pointing up the urgent need for a means of preventing this frequently fatal condition. Davis[2] found pulmonary disturbances, particularly hyaline membrane disease, the principal causes of death among 256 premature births. All babies with hyaline membrane disease weighed less than six pounds. In ten of twelve cases the birth weight was under five pounds. In most of these pregnancies there were complications which seemed responsible for the premature delivery, although not directly for hyaline membrane disease. In the 75 per cent of infants who weighed less than four pounds an immature chest wall with a flail chest may have existed. This situation would allow the chest wall to retract with each respiratory effort and make it impossible for the alveoli to expand.*

Among fatal cardiovascular anomalies septal defects were the most common. They also made up 199 of 619 cardiac and great vessel anomalies in the cases collected by Stowens,[10] and were the leading cardiac anomaly in his material.

TABLE 2.—*Immediate Cause of Death in 99 Cases of Perinatal Death*

	No. of Cases
Asphyxia	30
(Intrauterine asphyxia 12)	
Heart failure	13
Intracranial hemorrhage	6
Sepsis	5
Atelectasis	4
Erythroblastosis fetalis	3
Pulmonary hemorrhage	2
Undetermined	36

TABLE 3.—*Placental Pathologic Diagnoses from Autopsies*

	Present Series No.	Per Cent	Potter[4] No.	Per Cent
Premature placental separation	14	36	54	10
Nontoxic separation	10	....	....	....
Ruptured marginal sinus	2	....	11	....
Toxemic separation	2	....	....	....
Massive placental infarction	4	10	....	....
Placenta previa	2	5	5	1
Circumvallate placenta	2	....	....	....
Placentitis	1	....	....	....
Hypoplastic placenta	1	....	....	....
Capillary hemangioma	1	....	....	....
No abnormality	14	....	....	....
Total Cases	39		526	

Erythroblastosis fetalis was diagnosed clinically in four cases. In two cases the autopsy confirmed this diagnosis, but in one case the placenta was not characteristic pathologically. In the fourth case diagnosed clinically, the autopsy was inconclusive and the placental examination was not diagnostic of erythroblastosis. Autopsy demonstrated erythroblastosis in still another case, although this diagnosis had not been made clinically. Thus the clinical, autopsy and placental findings are all needed sometimes to arrive at the correct diagnosis.

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*This mechanism, suggested by Dr. Richard A. Jones of Scripps Memorial Hospital, is being reported elsewhere.

Intracranial hemorrhage was diagnosed correctly clinically in five of six cases in which autopsy was done. In the sixth case intracranial hemorrhage was diagnosed clinically, but hyaline membrane disease was found at autopsy. In the three series of cases reviewed, intracranial hemorrhage, listed by Stowens as due to birth trauma, accounted for from 3 to 6 per cent of the perinatal deaths.[4,6,10]

An immediate cause of death (Table 2) was assigned by the pathologist in 63 of the 99 cases in which autopsy was done. About half of the babies died of asphyxia, one-sixth of heart failure and one-eighth of either cerebral or pulmonary hemorrhage. The remainder died of sepsis, atelectasis and erythroblastosis. Reid[6] believed that hypoxia, malformations and infection are the three major causes of perinatal death. In the present series intracranial hemorrhage and the attendant asphyxia were slightly more common than sepsis.[1,5] Cardiac failure secondary to cardiovascular anomalies was the most common lethal situation that complicated congenital malformations.

The entire series of placentas examined (listed in Table 4) included many that were studied for reasons other than perinatal death. Placentas from cesarean sections, from Rh-negative mothers without evidence of fetal erythroblastosis, from diabetic pregnancies and twin placentas were often submitted.

The two most common placental abnormalities found were premature separation and inflammation secondary to premature rupture of the membranes. In 14 cases it was not possible to confirm by pathological study a clinical diagnosis of placental separation, toxemia of pregnancy or erythroblastosis. Tissue examination of the placenta alone in these conditions cannot be considered either as the exclusive or the definitive diagnostic method, since each of these three abnormalities primarily involves the mother and affects the placenta and fetus secondarily. Only limited amounts of decidua attached to the placenta were usually available for scrutiny.

The most common significant placental abnormality was pathological evidence of a premature separation.[8] Most often this comprised an excessive amount of blood clot attached to and infiltrating a quadrant or more of the maternal surface. Histological examination of this area showed the anchoring decidua to be abnormally vacuolated or hyalinized, and it had evidently lost its elasticity and mechanical stability. The decidual vacuolar degeneration is believed to permit small hemorrhages to form and coalesce, a situation analogous to that which occurs in aortic medionecrosis, predisposing to dissecting hemorrhages of more serious proportions. The basic abnormality is uncertain, but it may be an endocrine imbalance, since in a series of women given stilbestrol during pregnancy no nontoxic placental separations occurred, while several were found in the untreated control cases.[9]

TABLE 4.—*Pathological Examinations of 225 Placentas*

		Number of Cases
Premature separation		23
Marginal sinus rupture	10	
Nontoxic separation	10	
Toxemic separation	3	
Chorionamnionitis		18
Toxemic degeneration		10
Severe infarction		8
Severe hypoplasia		7
Circumvallate placenta		7
Placenta previa		3
Marginal cord insertion with rupture		2
Erythroblastosis fetalis		2
Circummarginate placenta		1
Capillary hemangioma		1
No significant abnormality		143
Clinical Abnormalities Not Confirmed by Placental Examination		
Premature separation		6
Toxemic separation	3	
Marginal sinus rupture	2	
Nontoxic separation	1	
Toxemia		5
Erythroblastosis fetalis		3
		14

When the marginal sinus had ruptured, a blood clot was found localized toward the periphery of the placenta that involved the rounded margin and the adjacent zone of membranous attachment as well as the adjacent cotyledons. Histologically a thrombus was identified within the torn marginal sinus segment with clot spreading by contiguity into the adjacent placenta.

Toxemia of pregnancy complicated by premature placental separation was associated with more serious abnormalities both of the decidua and chorionic villi. The decidua was excessively hyalinized, and the maternal sinusoids thickened. The vessel walls were sclerotic or hyalinized and at times the endothelium was swollen and had a foamy appearance—so-called acute atheroma. In some cases thrombosis of maternal sinusoids was noted. The chorionic villi in toxemia of pregnancy appeared excessively senile for the placental weight and the clinical duration of pregnancy. The trophoblastic cells were abnormally thin and degenerate and had disappeared from parts of the surfaces of many chorionic villi. Excessive intervillous thrombi and infarcts were usually found. The villous stroma was relatively hyalinized and acellular.

The older term *abruptio placentae* has conventionally been used to refer either to nontoxic or toxic placental separations, as well as to ruptured marginal sinus. *Abruptio,* with its inferred meaning of a

TABLE 5.—*Clinicopathologic Correlations*

	No. of Cases
Clinical Diagnoses	
Correct	39
Incorrect	6
Unknown	54
Autopsy Diagnoses	
Conclusive	54
Inconclusive	45
Placental Diagnoses	
Conclusive	14
Contributory	5
Inconclusive	20
No examination	60

dramatic tearing away of the placenta, fails to convey the quiet, unnoticed progressive nature of the process. This obsolete term could be discarded.

Massive infarction was the fourth most common placental diagnosis—in four cases or 10 per cent. While Potter[4] held that there is little evident relation between the degree of placental infarction and neonatal death, in some instances where the placental weight was near the lower limits of normal for the size of the fetus or neonate, and where half or more of the placenta was completely ischemic and degenerated, placental insufficiency due to infarction has been considered acceptable as the cause of death.[2]

In Table 5, which correlates the clinical and pathological diagnoses, the clinical diagnoses were regarded as correct in approximately 40 per cent of the cases. This proportion was not as good as might be anticipated. Also, diagnoses of the cause of death were given as "stillbirth" or "prematurity" in 16 of 31 perinatal fatalities. In the remaining 15 cases a reasonable attempt was made to reach a definite diagnosis. As *stillbirth* and *prematurity* are not acceptable medical diagnoses, the terms should be abandoned in dealing with perinatal mortality.

Autopsy findings were conclusive diagnostically in 54 of the 99 perinatal cases examined. Among the 31 stillbirths, autopsy findings were conclusive in only 14 cases. The autopsy thus was less helpful diagnostically than might have been anticipated, but still was conclusive in over half of the cases. There were 39 placental examinations from the 99 autopsied cases, and in 19 (49 per cent) the pathological findings were conclusive or contributory diagnostically. In the 16 cases where the cause of death was listed clinically merely as stillbirth or prematurity seven of fourteen placental examinations demonstrated a reasonable cause of death, and autopsy established the cause of death in three additional cases.

The clinical diagnosis was found to be either indeterminate or in error in 60 per cent of the present series. If both a pathological examination of the placenta and an autopsy were performed it was possible to assign a reasonably accurate cause of death to nearly two-thirds of the cases that had previously been labeled simply as *stillbirth* or *prematurity*. The placental examination was helpful nearly as often as the autopsy in establishing a final diagnosis. While not all placentas need to be examined pathologically, this would be desirable in all deliveries where fetal distress or the likelihood of a fatality is recognized.

At least two major unsolved problems exist in this field. The most serious is the 37 to 39 per cent of perinatal deaths for which no cause is found by pathological examination. While epidemiological, genetic, statistical and public health investigations[7] provide interesting information concerning the nutritional, racial, geographical, age and other maternal factors that are more or less involved, the problem is in essence individual and medical. More careful histories, physical examinations, laboratory studies and collaborative investigations by interested physicians might be expected to yield answers applicable to mortality of the individual neonate.

The second (probably interrelated) problem is the neglect of the placenta both clinically and pathologically. A prominent obstetrician once said he had seen thousands of placentas and never looked at one. Despite persistent attempts to obtain the placenta in every case of perinatal death, only in 40 per cent of the present series was a pathological examination possible. At least a beginning at investigating the large number of unexplained perinatal deaths could be made if the custom of supplying both the body and placenta to the laboratory became generally established.

Dept. of Pathology, Francis Delafield Hospital, 99 Fort Washington Avenue, New York, New York 10032 (Sommers).

REFERENCES

1. Benirschke, K.: Routes and types of infection in the fetus and newborn, Am. J. Dis. Child., 99:714, 1960.

2. Davis, M. E.: Survey of clinical factors in the prevention of perinatal mortality after period of viability, Clin. Obst. & Gynec., 4:417, 1961.

3. Gregg, R. H. and Bernstein, J.: Pulmonary hyaline membranes and the respiratory distress syndrome, Am. J. Dis. Child., 102:123, 1961.

4. Potter, E. L.: Pathology of the Fetus and Infant, 670 pp. Yearbook Medical Publishers, Inc., Chicago, 1961.

5. Pryles, C. V. and Gellis, S. S.: Bacterial infections of the fetus and the newborn infant, Clin. Obstet. & Gynec., 4:383, 1961.

6. Reid, D. E.: A Textbook of Obstetrics, 1087 pp. W. B. Saunders Co., Philadelphia, 1962.

7. Schlesinger, E. R. and Nesbitt, R. E. L., Jr.: Perinatal mortality. Health viewpoint: Scope and perspective. Clin. Obst. & Gynec., 4:317, 1961.

8. Sexton, L. I., Hertig, A. T., Reid, D. E., Kellogg, F. S. and Patterson, W. S.: Premature separation of normally implanted placenta, Am. J. Obst. & Gynec., 59:13, 1950.

9. Sommers, S. C., Lawley, T. B. and Hertig, A. T.: Study of the placenta in pregnancy treated by stilbestrol, Am. J. Obst. & Gynec., 58:1010, 1949.

10. Stowens, D.: Pediatric Pathology, 676 pp., Williams & Wilkins Co., Baltimore, 1959.

Rheumatoid Arthritis

Physical Measures in Treatment of Children

LUCILE M. EISING, *M.D.*, and BETTY SOULES, *B.S.*, *O.T.R.*, San Francisco

• **Prognosis in rheumatic arthritis in children is good, provided total care is given, deformity prevented and function maintained. Bed rest is desirable until active inflammation of the joints has subsided. During convalescence a balance between rest and exercise must be maintained to avoid recurrence of inflammation of the joints. When there is progressive deformity or disabling pain in the wrist, a molded leather wrist-cuff splint can control the deformity, decrease or abolish pain and lessen swelling. If there is valgus deformity of the knee or external rotation of the tibia, with no more than ten degrees of knee flexion deformity, correction can be obtained by simple manipulations.**

When adequate total care is given, prognosis of rheumatoid arthritis in childhood is good in the majority of cases.[1,2,3] Particularly is this true if such care is given early in the course of the disease. Treatment of rheumatoid arthritis frequently involves the combined efforts of the family physician, pediatrician, physiatrist, physical therapist and occupational therapist, as well as the orthopedic specialist. The medical social worker can be helpful in relieving tension in the home by speaking with the family about their problems and helping them to understand the long-term care that is necessary.

Relief of stress, systemic and local, combined with exercise to maintain joint function and muscle strength, is the most important feature of a physical medicine program. Prevention of deformity is critically important. This involves correct positioning, which must be given constant consideration by the patient, the physician and the nursing staff (if the patient is hospitalized) and the family if the patient is at home. Splinting may be necessary.

Complete bed rest is desirable until the acute inflammation of the joints has subsided. At the same time, gentle range of motion and isometric resistance exercises to prevent stiffening of the joint and to maintain muscle strength should be performed. As a preliminary measure, mild heat is used as necessary. When the joints are no longer painful, swollen and hot, physical activity is gradually increased while maintaining a rest:exercise balance such that recurrence of inflammation of the joints will be prevented. To prevent or to correct deformity, and at the same time permit function, is often difficult.

Wrist Joint

The wrist joint is commonly involved, and deformities of volar flexion and ulnar deviation frequently result. In mild cases a simple volar plaster splint extending from the upper one-third of the forearm to the metacarpal-phalangeal joints can be worn at night, and may prevent deformity. In cases where destructive change is evident by x-ray visualization, or pain prevents functional use of the hand, or deformity continues to develop in spite of night splinting, support during waking hours is highly desirable to correct or prevent deformity, but normal use of the fingers should be permitted and encouraged. Various materials for functional splints have been employed. In our experience, however, the most wearable are made of leather. A molded leather cuff can become almost a part of the patient.

For adults, cuffs in stock sizes are available, but for children such splints must be custom-made. We have fashioned the leather splints as illustrated and described here. It is hoped that any physician will be able to obtain such a support for his patient on prescription, by showing this article to either an occupational therapist or bracemaker (orthotist).

When properly constructed and adjusted, the leather splint is comfortable and can be worn continuously. If its use is combined with use of the night splint, and it is worn faithfully during waking hours as prescribed and is removed only for bathing or exercise of the wrist to avoid stiffness, it will prevent volar flexion and ulnar deviation deformities.

A tendency to radial deviation was seen in one child while wearing the cuff, because present construction allows as much freedom of the fingers and normal use of the hand as possible. However, radial deviation can be controlled easily by the addition of a quarter-inch strap to the present leather splint. This strap is riveted to the cuff at its distal end, both dorsally and volarly, and crosses the web of the thumb to prevent radial deviation of the second

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From the Section on Physical Medicine and Rehabilitation, Department of Orthopedic Surgery, University of California School of Medicine, San Francisco.

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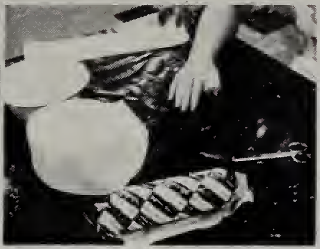
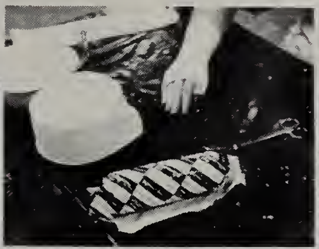
PREPARATION OF LEATHER CUFF FOR FUNCTIONAL WRIST SUPPORT

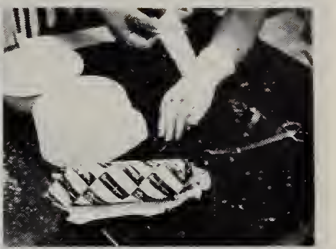
1 LATERAL VIEW OF ARTHRITIC WRIST (ADULT WRIST SHOWN; PREPARATION OF SUPPORT IDENTICAL FOR CHILDREN)



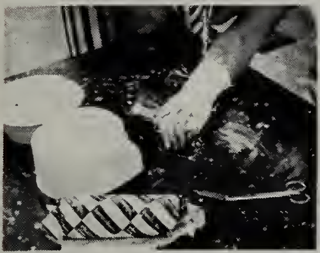
2 HAND POSITION FOR COMMENCING CAST, FELT HELD BETWEEN THUMB AND INDEX FINGER



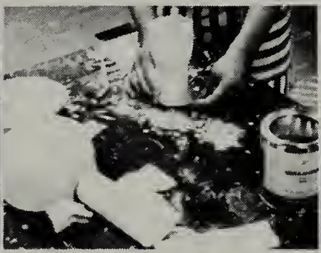
3 STOCKINETTE (2") FROM METACARPOPHALANGEAL JOINTS TO 3" BEHIND ULNAR STYLOID. CUT 8 STRIPS OF PLASTER BANDAGE, 3 × 10"



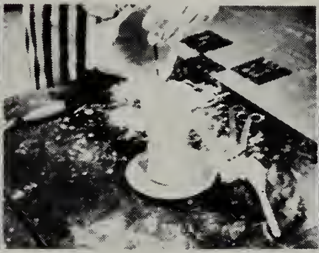
4 WET EACH PLASTER STRIP INDIVIDUALLY. WRAP OVER STOCKINETTE FROM PROXIMAL TO DISTAL END. AVOID WRINKLES



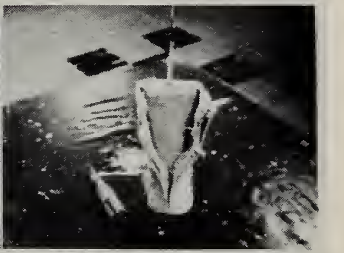
5 WHEN SET INSERT TIP OF SCISSORS BETWEEN STOCKINETTE AND PLASTER ON DORSUM. CUT THROUGH PLASTER, THEN CUT STOCKINETTE. SPREAD AND REMOVE.



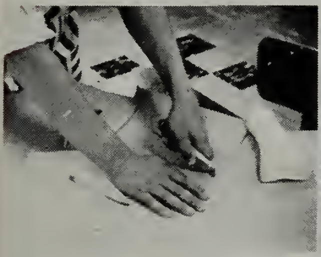
6 PULL STOCKINETTE OUT FROM INNER SIDE OF CAST. MOLD CAST BACK INTO SHAPE, COVER INNER SURFACE WITH PROTROLATUM. SEAL BOTTOM WITH 3 THICKNESSES OF PLASTER GAUZE



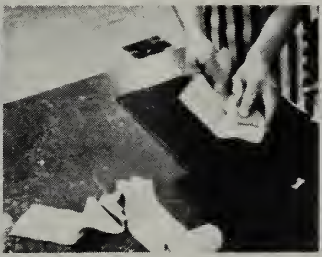
7 PLACE METAL ROD IN CENTER OF FORM, POUR PLASTER, TAP TO REMOVE BUBBLES.



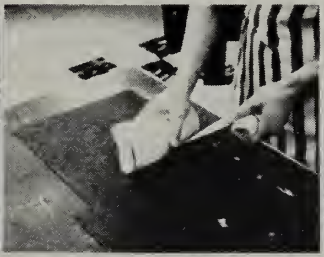
8 WITH PLASTER SET, CUT DOWN PREVIOUS OPENING. PEEL CAST AWAY. MAKE PATTERN (PAPER, CLOTH, FELT) AROUND PLASTER MOLD; ALLOW ¾" OVERLAP ON RADIAL SIDE OF DORSUM



9 WITH PATTERN, CUT CUFF FROM 2½ OZ. TO 3 OZ COWHIDE. CUT THUMB SECTION TO CARPOMETACARPAL JOINT

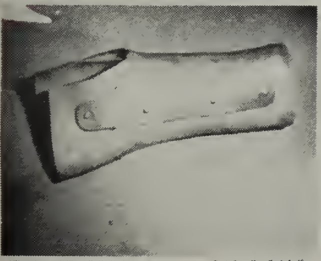


10 SOAK LEATHER IN WATER. PLACE SPONGE RUBBER OVER STYLOID ON MOLD; SECURE WITH MASKING TAPE. STRETCH LEATHER AROUND MOLD

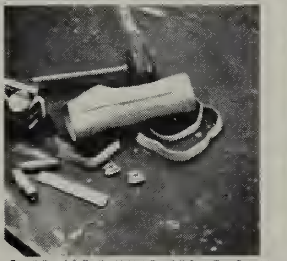


11 WRAP LEATHER FORM WITH ACE BANDAGE PULLED TIGHTLY, STRETCHING ALL WRINKLES. TAP MOLD THROUGH ACE BANDAGE TO REMOVE ALL WRINKLES

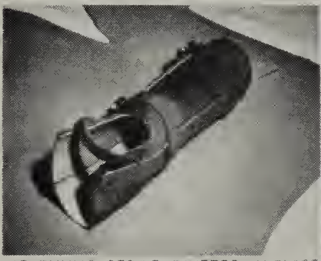
12 DRY LEATHER WITH ELECTRIC DRYER.



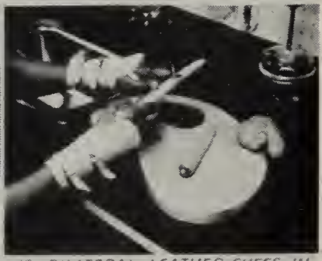
13. RIVET STEEL METAL STRIP (½" × 6" LONG) ON PALMAR SURFACE FOR WRIST COCK-UP



14 CUFF, ¼" THUMB STRAP; SAW-TOOTH BUCKLES; RIVET-SETTING TOOLS, TWO ½" FOREARM STRAPS, ONE STRAP TO BE RIVETED OVER ULNAR STYLOID; ONE RIVETED 1¼" FROM PROXIMAL END OF CUFF. BUCKLES TO BE PLACED ON RADIAL SIDE



15 THUMB STRAP RIVETED IN PLACE, SUFFICIENTLY LOOSE TO PREVENT PAIN AND ALLOW FREE THUMB ACTION. RIVET SNAP AT TOP OF DORSAL SIDE OF CUFF AT OVERLAP. LINE ENTIRE CUFF WITH WASHABLE PLASTIC LEATHER



16. BILATERAL LEATHER CUFFS IN USE.

metacarpal. The additional strap may overlie the already existing thumb strap.

Cuffs incorporating this additional strap, and using Velcro for fastening instead of a snap fastener on the dorsum, have been used by two patients. Both patients wear these newly constructed cuffs for many of their waking hours. One of them, a 2-year-old girl, objected to her mother's removing the cuffs; and the other, an 18-year-old boy, said that wrist pain while he is wearing the cuff "is mostly gone."

Decrease in pain is the common experience of patients who are wearing the cuff. Another virtue is the protection from strain that it affords, especially when the patient attempts any activity usually accompanied by wrist motion or when special stress is thrown upon the wrist. Danger of destructive changes in the cartilage or bone in the wrist region, fraying of tendons and subluxation is lessened by the use of the cuff. By providing circumferential support to the swollen wrist, the cuff maintains a constant maximal volume within its confines: When additional arterial blood enters the hand during use of the fingers, pressure under the cuff is increased, forcing the confined venous blood and lymph proximally, thus decreasing the swelling.

The same mechanism involving a fixed volume and increase in arterial flow is seen in the use of a paraffin bath, which in the experience of one of the authors is the most effective form of heat treatment to relieve swelling of arthritic hands.

While wearing the cuff, patients can perform vigorous activities that would be impossible without it because of pain or weakness. Hand grip is stronger by as much as 50 per cent with the cuff than without it. Limitations in the use of the cuffs to date have been: (1) Crutches cannot be successfully maneuvered while wearing them; (2) their use causes interference with writing and other fine movements of the fingers, and (3) they must be kept out of water.

Knee Joint

Another joint commonly involved in arthritis in childhood is the knee. Sometimes it is the only joint involved. When the inflammation subsides and the patient is permitted to resume weight-bearing, not infrequently valgus, which may be progressive, becomes a problem. This is often accompanied by a few degrees of fixed flexion. In the growing child this deformity can be corrected by simple manipulation, provided the accompanying flexion contracture is no greater than 10 degrees, and the maneuver is performed conscientiously at least twice a day.

The first step in the maneuver is passively to flex the knees to a comfortable position. Next, with one hand the ankles are grasped, and the malleoli can be approximated. The other hand is placed over the anterior surfaces of the thighs just above the patella, and the femora pressed gently posteriorly, while the hand grasping the ankles is being pulled distally. The approximated position of the malleoli is maintained throughout the maneuver. This corrected position (the knees in full extension, legs in straight alignment, inner surfaces of both knees and malleoli touching) is held for some seconds, and the procedure should be repeated up to ten times at a single session. It should not be painful; however, a mild stretch behind the knee and laterally along the lower portion of the iliotibial tract should be felt by the patient. If pain is felt under the patella, the maneuver is not suitable. This latter response has not been encountered in children, but is common in adults with arthritis of the knee.

These manipulation maneuvers have been attempted in only a few cases, but in each instance correction of the valgus of the knee or external rotation of the tibia has been obtained.

The amount of valgus deformity was measured by the distance between the malleoli with the patient supine and the knees together, without any attempt being made to correct the deformity. In the cases in which measurement was recorded, improvement was measurable within two months. Complete correction, however, required 17 to 45 months.

In the case of pronounced external rotation of the tibia on the femur, two additional maneuvers can be used to advantage:

1. With the patient supine, the therapist stands on the side opposite the involved knee, holding the foot of the affected leg in one hand. The other hand is placed over the involved knee, just above the patella. The therapist then pushes the lower femur backward gently, but firmly, toward the supporting surface, and at the same time rotates the femur outward to align it with the foot being held by the opposite hand.

2. The patient sits on a table so that the therapist, while sitting, can face him comfortably. The therapist places one hand on the front of the patient's knee, holding the femoral condyle firmly. At the level of the malleoli with the other hand, the therapist grasps the tibia and fibula firmly, and internally rotates the leg at the knee joint so that the foot on the affected side points toward the toes of the opposite foot. This stretches the iliotibial tract, inserting on the lateral condyle of the tibia.

Department of Physical Medicine, U.C. Medical Center, San Francisco, California 94122 (Eising).

REFERENCES

1. Ansell, B. M., and Bywaters, E. L. G.: Prognosis in Still's disease, Bull. Rheum. Dis., 9:189-192, May 1959.

2. Edström, G.: Rheumatoid arthritis and Still's disease in children. A survey of 161 cases, Arth. & Rheum., 1:497-504, Dec. 1958.

3. Grokoest, A. W., Snyder, A. I., and Ragan, C.: Some aspects of juvenile arthritis, Bull. Rheum. Dis., 8:147-148, Nov. 1957.

Selected Advances in Hematology

Ineffective Erythropoiesis; Pathogenesis of Megaloblastic Anemia; Hemostasis and Coagulation

STANLEY L. SCHRIER, *M.D.*, Palo Alto

DURING THE past several years there have been major advances in three areas in the broad field covered by hematology. We have greatly improved our understanding of the concept of ineffective erythropoiesis, the modes of action of vitamin B_{12} and folic acid, and the mechanism of hemostasis and coagulation. These advances require a sharpening of our diagnostic criteria so that improvements in therapy can be fully realized.

Ineffective Erythropoiesis

It is an old clinical observation that patients with full-blown Addisonian pernicious anemia in relapse present something of a paradox with regard to their clinical and laboratory findings. They are usually mildly jaundiced with serum bilirubin levels in the range of 2 to 5 mg per 100 ml and with bone marrow packed full of erythroid precursor cells. The jaundice and erythroid hyperplasia suggests hemolysis as the primary cause of the anemia; however, in contrast to marrow erythroid hyperplasia, the reticulocyte count is decidedly decreased. The quantitative fecal urobilinogen (a measure of the excretion of the degradation products of the heme moiety of the hemoglobin and therefore an index of red blood cell destruction) is three to four times normal. The pronounced increase in fecal urobilinogen suggests that either large numbers of cells are being broken down or that there is an abortive attempt to make hemoglobin in the bone marrow. This paradox of the reticulocytopenia in the presence of erythroid hyperplasia and increased hemoglobin breakdown is very puzzling.[19,32] Similar disturbing observations have been made over the past twenty years in patients with thalassemia and di Guglielmo's disease and in some patients with agnogenic myeloid metaplasia.

The problem became defined when the use of radioactive chromium (Cr^{51}) was brought into clinical medicine as a means of determining red cell life span. This technique involves the *in vitro* labeling of a mixed population of red blood cells which is then injected into the peripheral circulation. In patients with pernicious anemia, a survival of red blood cells approximately one-half of normal was insufficient to explain the four-fold increase in red blood cell destruction indicated by the quantitative determinations of fecal urobilinogen excretion.

The underlying kinetics of the situation were determined by studies with the isotopes, iron 59 (Fe^{59}) and glycine labeled either with carbon 14 (C^{14}) or nitrogen 15. The plasma iron is in equilibrium with the gastrointestinal mucosa, through which iron is absorbed, the bone marrow, to which iron is delivered for hemoglobin manufacture, and iron stores, mainly in the liver and spleen.

Approximately 70 per cent of the iron that passes through the plasma each day is involved in the breakdown and production of hemoglobin. By the use of suitable mathematical models[43] the disappearance of Fe^{59} from the plasma can be used to estimate hemoglobin production. The reappearance of iron in circulating red blood cells is a measure of the effectiveness of the delivery of red cells to the circulation. In normal subjects approximately 75 to 100 per cent of the injected Fe^{59} is incorporated into red blood cells within seven to ten days.

When ferrokinetic studies were done on patients with pernicious anemia in relapse,[19] thalassemia,[52] di Guglielmo's disease[2] some patients with myeloid metaplasia[40] and another group of patients which will be discussed later, the findings were again contradictory. The plasma iron clearance was extremely rapid and indicated that hemoglobin production was four to five times normal, (if the assumptions apply equally to patients and normal controls). However, the incorporation of Fe^{59} into circulating red blood cells seven to ten days after the injection was very low and of the order of 30 per cent. These findings indicated that the intensely erythroblastic marrow in patients with thalassemia

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Associate Professor of Medicine, Department of Medicine, Stanford University School of Medicine, Palo Alto.

Submitted April 1, 1964.

and pernicious anemia took up iron more rapidly than normal and made hemoglobin more rapidly than normal.

Most of this hemoglobin was not delivered to the peripheral circulation. The use of labeled glycine explained this discrepancy.[33] Glycine is incorporated into both the heme and the globin of hemoglobin. It is given as a single pulse which then labels a single population of red cells.

Isotopically labeled bile pigments derived from heme degradation appear in the stool at two distinct periods. Labeled pigments, accounting for 10 per cent of the administered material, first appear as an "early urobilin peak" approximately four to ten days after injection. Subsequently there is little fecal excretion of labeled pigments until the red blood cells die approximately 120 days later, at which time there is a second peak.

When these techniques were used to study patients with pernicious anemia, there was a huge early urobilin peak accounting for 40 per cent of the administered label, some four to ten days[32] after the isotype was administered. This early excretion of pigments indicated that hemolysis or premature destruction of erythroblasts had taken place before the release of red cells into the circulation.

When we combine the data from clinical, cytologic, and isotopic measurements, the following picture of ineffective erythropoiesis emerges: Because of the anemia, the bone marrow is under a very strong stimulus to make hemoglobin and red cells, and accordingly responds with an intense erythroid hyperplasia and the uptake of large amounts of iron. Sometime during the course of hemoglobin manufacture and erythroid maturation in the marrow the majority of the maturing erythroid cells are irreversibly damaged. This damage might be due to an hereditary defect in the control of hemoglobin synthesis as postulated in thalassemia or might be related to an acquired defect of nucleic acid metabolism due to deficiency of folic acid or vitamin B_{12}. The abnormality results in the premature destruction or hemolysis of erythroblastic cells either within the bone marrow cavity or immediately upon release. This destruction of cells in the marrow cavity, with the concomitant degradation of the hemoglobin and prehemoglobin compounds contained by the cells, leads to the mild bilirubinemia, to increased excretion of fecal urobilinogen and to the large C^{14}-labeled early urobilin peak. There are apparently some erythroid cells in the bone marrow which do not share in the basic defect to the same degree; these cells mature and enter the peripheral blood where they account for the few reticulocytes seen and have a modestly decreased survival. The rapid re-entry of iron from red blood cell breakdown in the marrow plus the accelerated iron absorption from the gut probably accounts for the finding of high serum iron levels and two-thirds saturation of the iron-binding capacity.

There are some investigators who feel that the early appearance of labeled bile pigments in stool is not a result of an abortive attempt to make hemoglobin in the marrow. They suggest that there is a pathway involving a short-cut in bilirubin metabolism which is not dependent on erythropoiesis.[29] This concept has been challenged recently by studies which show that in human subjects erythropoiesis is necessary for bilirubin pigment manufacture.[4]

As techniques for the study of the kinetics of undiagnosed anemias have become more generally available, a heterogeneous group of patients has been observed, all of whom seemed to share the mechanism of ineffective erythropoiesis as the cause of their anemia.[16,23,47] Careful study has shown that these patients do not have pernicious anemia, folic acid deficiency, thalassemia, myeloid metaphasia or di Guglielmo's disease. The patients in this group are ill to a varying degree, but their symptoms are related to the degree of anemia and the extent of secondary hemochromatosis. The anemia is variable from patient to patient and depends on the degree of effective vs. ineffective erythropoiesis. Some of these patients develop the full-fledged picture of secondary hemochromatosis with high serum iron levels and 70 per cent saturation of serum iron binding capacity, hepatic cirrhosis, cardiac abnormalities and pluriglandular disturbances.

The increased iron stores cannot be explained by frequent transfusion or excessive iron feeding, and the iron must have entered the body via increased intestinal absorption. The control of iron absorption seems to depend on three interacting factors[36]: the degree of anemia, the rate of erythropoiesis, and the amount of iron stores. In patients with anemia secondary to ineffective erythropoiesis the iron absorption potentiating effects of the anemia and the greatly increased erythropoiesis overwhelm the inhibitory effects of already increased iron stores, and hemochromatosis develops over a period of years.

SOME of those in this group have a fairly uniform clinical picture which has been called *hereditary hypochromic anemia,* and *sideroachrestic anemia.*[16] It seems to be a familial disorder inherited as a sex-linked recessive and presenting as anemia in males in middle life.[48] The peripheral blood shows considerable hypochromia, target cells, and basophilic stippling of red blood cells. There are large amounts of stainable iron in the bone marrow, liver and spleen. There have been attempts to further characterize these patients. Some excrete large amounts of kynurenic acid in the urine after being given a tryptophane load.[47] Most of the patients have "ringed sideroblasts" in their bone marrow when the Prussian blue stain for iron is used.[10] These cells are normoblasts which contain heavy punctate deposits of iron ringing the cell nucleus, and Bessis has shown that the iron is encrusting the mitochondria.[7]

Some of these patients respond partially with reticulocytosis and increased hemoglobin levels when pharmacologic amounts of pyridoxine[47] or Valentine's liver extract[28] are administered. Splenectomy seems to be of no help. The management revolves about the control of the anemia and the hemochromatosis. Little can be done about the anemia as noted above. The hemochromatosis can be treated, however. Even patients with hemoglobin levels of 10 gm per 100 ml can[16] be dealt with by cautious and repeated phlebotomy, and this group can also be treated with a new iron chelating agent, desferrioxamine B.[37]

We have recently seen two female patients who have hypochromic red blood cells, "megaloblastoid" changes in the marrow, and classical ineffective erythropoiesis, defined kinetically. In both, splenectomy for enlarged spleens has been followed by some improvement in hemoglobin levels but there has been a persistent thrombocytosis of 500,000 to 900,000 per cu mm. Whether these female patients form another group is not yet apparent; however, one patient had a daughter who died at age 21 with hemochromatosis and insulin resistant diabetes.

Pathogenesis of Megaloblastic Anemia

Fundamental studies regarding the mechanism of action of the folic acid and B_{12} vitamins have resulted in a much greater understanding of the pathogenesis of the megaloblastic anemias as well as of their management. Several reviews have recently appeared summarizing the mechanisms of actions of both vitamin B_{12} and folic acid as well as the areas of their interaction.[5,26,38]

Vitamin B_{12}

Vitamin B_{12} occurs in all meats and meat products. In the gut, vitamin B_{12} is bound by a variety of proteins but most avidly by gastric intrinsic factor (IF). The site of the formation of the B_{12}-IF complex is unknown but it seems to take place throughout the small intestine. In its passage through the small bowel, uncomplexed vitamin B_{12} can also be utilized by bacteria and parasites. At the ileum,[8,17] possibly under the control of intestinal[49] or pancreatic secretion,[55] the vitamin B_{12}-IF complex is bound to the wall of the ileum, and partial absorption of the complex begins. Dissociation of the complex then occurs and vitamin B_{12} completes its passage through the ileal wall. It is thought by some investigators that a specific intestinal releasing factor is required to open the IF-B_{12} complex.[25] The absorbed vitamin B_{12} is carried by vitamin B_{12}-binding serum proteins throughout the body. Relatively large amounts go to the liver and marrow. The normal liver can store 1000 to 1500 micrograms of vitamin B_{12}, so that at a rate of utilization of 1 to 6 micrograms vitamin B_{12} per day the liver contains a 1.5 to 4 year depot.[21]

Vitamin B_{12} acts as a co-enzyme in many living forms, but probably its major function in mammals is its role in deoxyribonucleotide (DNA) synthesis.[5,57] The specific mode of action of vitamin B_{12} in DNA synthesis is not clear, but it is well known that DNA is required for cell division. The only known specific site of action of B_{12} co-enzyme in mammalian tissue involves a sequence in propionic acid metabolism in which methyl-malonyl CoA is converted into succinyl CoA.[5]

From the foregoing it can be seen that vitamin B_{12} deficiency states can result from a variety of causes. The most common and well-known is classical Addisonian pernicious anemia in which the specific deficiency of gastric intrinsic factor leads to an inability to absorb vitamin B_{12} from the diet. Most often pernicious anemia appears in the sixth decade when it is associated with gastric atrophy and histamine-fast achlorhydria even when tested with the augmented histamine test.[58]

There is some evidence that pernicious anemia may be a genetically conditioned disorder. Pernicious anemia has now occurred in several children who are presumed to be "homozygous." They have no gastric intrinsic factor but, on biopsy have normal gastric histology and also normal amounts of hydrochloric acid.[56]

Other causes of vitamin B_{12} deficiency can be anticipated from consideration of its absorption and metabolism. It may occur in a group of food faddists called "vegans" who eat no animal protein and whose diets are therefore deficient in vitamin B_{12}. Superabundance of small intestinal bacterial growth can by competing successfully for the vitamin B_{12} in the gut, result in vitamin B_{12} deficiency. This form of bacterial overgrowth occurs most commonly when there are multiple small bowel diverticula or when blind loops of small bowel have been created by surgical operation or trauma.[22,51] Parasitism of the gut can also result in vitamin B_{12} deficiency, the classic example being infestation of the gut with the fish tapeworm (D. latum) as seen in Finland.

Since a relatively intact ileum is needed for vitamin B_{12} absorption, a variety of malabsorptive diseases can result in vitamin B_{12} deficiency.[22,38] However, in nontropical sprue, which rarely involves the ileum, there is malabsorption of vitamin B_{12}. The explanation may reside in the role played by intestinal secretions which may have a releasing factor action.[49] Several patients with pancreatic insufficiency and steatorrhea have been reported to exhibit malabsorption of vitamin B_{12}. An alkaline pH is necessary for proper absorption of vitamin B_{12} and the sodium bicarbonate content of the pancreatic exocrine secretion contributes greatly to the maintenance of the alkaline pH. Addition of sodium bicarbonate partially corrected the malabsorption of vitamin B_{12} in some patients with pancreatic insufficiency, but there was a further increase in absorption when pancreatin was added as well, indicating a possible role of pancreatic enzymes in vitamin B_{12} absorption.

Deficiency of vitamin B_{12} from any cause results in a variable clinical picture which can be manifested by disorders in three organ systems.

1. There is glossitis, indigestion and diarrhea.

2. Hematologically there is a progressive and severe anemia which has the dynamics of ineffective erythropoiesis. In addition to ineffective erythropoiesis the primitive megaloblasts in the marrow have a prolonged maturation time.[41] The peripheral blood shows distorted red blood cells, macro-ovalocytosis and nucleated red cells. There may be a granulocytopenia with hypersegmented neutrophils, and the platelets may be decidedly decreased. The marrow shows classical megaloblastic erythroid hyperplasia. If the patient has a coincident iron deficiency[38] the megaloblastic features may be masked. Granulocyte precursors and megakaryocytes are decreased in number and there are usually giant metamyelocytes. Iron stores in marrow are frequently increased.

3. Vitamin B_{12} deprivation also leads to the neurologic picture of combined system disease which consists of peripheral neuropathy and spinal cord degeneration.

The etiology of pernicious anemia remains obscure. The previously mentioned familial incidence has led to the concept that the disease may be genetically conditioned. Several laboratories have now reported the finding, in 50 per cent of patients with pernicious anemia, of a circulating antibody to intrinsic factor which can block the absorption of vitamin B_{12}.[54] The findings suggest that pernicious anemia may be the result of immune mechanisms directed against the action or production of intrinsic factor. If this is the etiology of pernicious anemia, the patient with juvenile pernicious anemia (who has no gastric atrophy or achlorhydria) should have the antibody in his serum. Of ten such children tested thus far, none have an antibody to intrinsic factor.[53]

Folic Acid

Deficiency of folic acid results in a clinical picture which has many similarities with vitamin B_{12} deficiency. The same megaloblastic anemia characterized by ineffective erythropoiesis is induced. There may also be leukopenia and thrombocytopenia. The red cells in the peripheral smear are macrocytic and there is hypersegmentation of the polymorphonuclear cells. Combined system disease does not occur.

The action of folic acid centers about the transfer of a variety of single carbon groups,[20,26,38] which are required for purine ring closure and in the conversion of deoxyuridylic acid to thymidylic acid. Folic acid is therefore important in nucleic acid metabolism and cell division.

Folic acid and related compounds are contained in animal organs and fresh green vegetables, but can be destroyed and diluted by boiling in large amounts of water.[24] Absorption occurs in the upper small bowel and the body seems to be unable to store a large amount of folic acid so that deficiency states may appear more rapidly than in the case of vitamin B_{12} deficiencies.[24] The normal daily requirement of folic acid is 100 to 200 micrograms per day.[11,24] However, certain stress situations can increase the requirements.

Deficiency of folic acid can be seen on a dietary basis in alcoholic persons and food faddists. Since a relatively intact small intestine is required for the absorption of folic acid, deficiency can occur in a variety of intestinal malabsorptive syndromes, including tropical sprue, regional enteritis, and idiopathic steatorrhea.[20]

Recently a variety of conditions have been identified in which there is an increased requirement for folic acid. In certain chronic hemolytic states and perhaps pregnancy, a normal diet may not contain enough folic acid. The hemolytic anemias in which superimposed folic acid deficiency has been reported include sickle cell anemia, thalassemia, and acquired hemolytic anemia.[12,31] The clinical picture generally shows the chronic anemia becoming more severe with increasing transfusion requirements and falling reticulocyte counts. Megaloblastic changes in the marrow may be present or absent. Administration of folic acid results in restoration of the hemoglobin and the reticulocyte count to previous levels. One patient with sickle cell anemia required 1000 micrograms of folic acid per day (five to ten times the normal requirement) before the marrow became normoblastic.[31]

Lastly, there are two classes of drugs which can interfere with the utilization of folic acid. The use of the antifols, aminopterin and amethopterin, in the treatment of acute leukemia is based on their ability to impair folic acid metabolism by blocking the conversion of folic acid to metabolically useful forms. Prolonged use of these drugs can result in folic acid deficiency, although the acute leukemia ordinarily does not permit of prolonged therapy. The anticonvulsants dilantin and mysoline occasionally cause an anemia due to folic acid deficiency. Long term treatment at high dose levels increases the chance of anemia. The blood folic acid levels are decreased even in the presence of a good diet, suggesting that anticonvulsants impair metabolism of folic acid due to certain shared structural similarities.[30]

A major advance in hematology has been in the methods used in determining whether a deficiency of vitamin B_{12} or folic acid is causing the megaloblastic anemia. The implications of one or the other deficiency state are quite different. Thus Addisonian pernicious anemia is associated with an increased incidence of gastric cancer and the management of the patient must include periodic searches for gastric cancer. Megaloblastic anemia due to vitamin B_{12} deficiency may be the first sign of a relapse of regional ileitis.

Folic acid deficiency may occur in idiopathic steatorrhea, chronic alcoholism, chronic hemolytic anemia or drug therapy. The differential diagnosis can be made by reviewing the family history and by questioning regarding drug intake, weight, bowel function, and previous abdominal operations or abdominal trauma. The cytologic examination of peripheral blood and marrow is not particularly helpful in distinguishing the two.

There are now available sensitive microbiological assays for measuring folic acid and vitamin B_{12} levels in plasma or serum. When available these tests constitute the simplest and most direct way of determining which vitamin is deficient. However, the complexity of these methods indicates that they will probably not reach routine clinical use for many years. The distribution and excretion rates of labeled folic acid provide a measure of folic acid stores, as does the measurement of formiminoglutamic acid excretion in the urine after a loading dose of histidine. These methods are more suitable for special laboratories and are beyond the scope of this article.[38]

There are, however, two methods generally available. One involves the use of the cobalt radioisotopes of vitamin B_{12} in the Schilling test, which is a method for estimating vitamin B_{12} absorption. A tracer dose of labeled vitamin B_{12} is given orally and this is followed by a large parenteral dose of unlabeled vitamin B_{12}. This "tide" of unlabeled vitamin B_{12} spills over into the urine, carrying with it a proportion of the labeled vitamin B_{12} which has been absorbed from the gastrointestinal tract. The radioactivity in the urine is then determined. The reticulocyte response to the large flushing dose of vitamin B_{12} can be monitored, and it provides a rough (and occasionally misleading) index of response.[59] If the Schilling test result is initially abnormal in the presence of good renal function, it should be repeated with added oral intrinsic factor. If added intrinsic factor brings vitamin B_{12} absorption to normal, the patient has Addisonian pernicious anemia due to deficiency of intrinsic factor. If the test is still abnormal, the patient has an absorptive defect. Administration of broad spectrum antibiotics before a third Schilling test is useful if one suspects that the patient has vitamin B_{12} deficiency secondary to jejunal diverticula or intestinal blind loops.[22]

THE disadvantage of the Schilling test is that it requires doses of vitamin B_{12} which can cause a reticulocyte response even in patients with folic acid deficiency. Furthermore good renal function and accurate urine collections are necessary.[59]

The simplest tests are based on the parenteral administration of small physiological doses of each vitamin, accompanied by serial measurements of the reticulocyte response. At the doses chosen, a reticulocyte response indicates a deficiency of that vitamin. In general, one first selects the vitamin which one thinks is not at fault. Therefore if one judges on the basis of clinical data that a patient has folic acid deficiency, one would begin the test by measuring daily reticulocyte counts, and starting treatment with one microgram of vitamin B_{12} parenterally per day. If a patient has a vitamin B_{12} deficiency state not obscured by iron deficiency or concurrent infection, there will be a pronounced rise in reticulocytes within five to seven days. If after ten days there is no response to vitamin B_{12}, trial administrations of 100 to 200 micrograms of folic acid parenterally per day should be started and maintained for ten days. If the deficiency is due to this vitamin, in five to seven days there will be an increase in reticulocytes.

It should be emphasized that larger doses of either vitamin will cause a misleading reticulocyte response. Thus patients with folic acid deficiency will respond to 500 micrograms of B_{12} per day while patients with vitamin B_{12} deficiency states will respond to 400 micrograms of folic acid per day.[24,59] The therapeutic response tests take time and should not be used in acutely ill patients who have neurologic disease or severe thrombocytopenia or leukopenia.[24]

A test which may become clinically available utilizes the specific action of vitamin B_{12} as the coenzyme in the conversion of methyl-malonyl CoA to succinyl CoA. A deficiency of vitamin B_{12} should result in a piling up of methyl malonate in urine, and such is indeed the case.[3] Patients with folic acid deficiency have normal excretion.

The dose and route of administration of vitamin B_{12} and folic acid are dictated by the causes of the deficiency state. The therapy of megaloblastic anemia has been recently reviewed.[24] There is no evidence that vitamin B_{12} or folic acid has any therapeutic use other than in the treatment of the specific deficiency states.

Advances in Hemostasis and Coagulation

Discussion here of advances in hemostasis and coagulation will be limited to two aspects of this subject: The recent availability of concentrated human AHG (anti-hemophilic globulin, Factor VIII) preparations for the treatment of classical hemophilia, and the current status of our knowledge of platelet life-span and function in hemostasis.

Deficiency of Factor VIII or anti-hemophilic globulin accounts for approximately 80 per cent of cases of hemophilia. Our improved ability to diagnose and manage hemophilia derives from: (1) a clearer idea of the function and biological half-life of Factor VIII in first stage coagulation,[44] (2) the emergence of specific assays for Factor VIII,[46] and (3) the development by several pharmaceutical companies* of concentrated preparations of human AHG.[35,45] These preparations not only contain increased amounts of AHG per volume but have a sharply reduced content of extraneous protein so that we can now give infusions of AHG which would previously have led to overloading of the circulation and to noncardiac circulatory congestion. With these preparations it is now possible to raise the AHG levels from 1 per cent of normal in moderately severe hemophilia to 30, 50 and even 100 per cent of normal.[45] Therefore, severe bleeding which was not controllable in the past with fresh lyophilized plasma can now be managed. It is even possible to consider elective but necessary surgical operation in properly prepared hemophiliac patients.

Several precautions must be taken however, in the use of these preparations:

- They are not indicated in the more routine hemorrhagic complications of hemophilia because of their great cost. Use should be limited to serious intracranial, intraabdominal, retroperitoneal, and retropharyngeal bleeding.

- The preparations should only be used in conjunction with a laboratory which can perform one of the specific AHG assays The calculations of dose required are based on AHG assays of the patient's plasma (along with actual measurements of the patient's plasma volume) and the preparation to be used. Serial measurements of the AHG levels achieved are then made. Use of the AHG concentrate without laboratory control will result either in inadequate therapy, which is dangerous, or in overuse, which is wasteful.

- Use of the preparation should be preceded by a specific assay for anti-AHG anticoagulants in the patient's blood. Use of AHG concentrates when the patient has a specific AHG anticoagulant is not only wasteful but dangerous, in that it may stimulate the production of larger amounts of anticoagulant.

- Use of the preparations in severe hemorrhage is a technical *tour de force.* Infusions are required every six to eight hours, with monitoring of the patient's general condition and plasma AHG levels. The duration of infusions is not definitely established but, in general, AHG levels of 30 per cent should be maintained for 48 to 72 hours after subsidence of symptoms. In the case of general abdominal surgical operations, there have been reports of severe hemorrhage occurring a week after operation, possibly related to wound healing and capillary regrowth. Therefore, it seems prudent to maintain infusions for seven to ten and even fourteen days following operation.[35]

Platelet Function

Studies on platelet function have contributed much to our understanding of the steps involved in hemostasis. Microcinematographic investigations of platelets in small vessels[6] have revealed the following sequence: When a small wound is made in a capillary vessel, there is an immediate piling up of platelets as in a snowdrift. The platelets adhere to and aggregate at the subendothelial portion of the break, and to one another. However, they do not completely impede the passage of blood out of the vessel.

The trigger mechanism for platelet aggregation *in vivo* is unknown, but several recent studies have shown that adenosine diphosphate and epinephrine can cause platelet aggregation *in vivo* and *in vitro.*[9,18,42] After 30 seconds there is a thrombin-mediated change in the physical characteristics of the platelet aggregate which is called viscous metamorphosis (the source of the thrombin for this reaction remains obscure). The platelets swell and when this occurs the platelet aggregate becomes a platelet plug that is no longer permeable to red cells, whereupon bleeding through the opening in the vessel wall stops.[50] When the platelets swell they also expel platelet factor 3, a substance necessary for thromboplastin generation.[44] Subsequently, red cells and more platelets become entrapped behind this platelet plug and coagulaton takes place. The platelets appear to be spaced regularly throughout the clot at the intersection of fibrin strands and they produce clot retraction by sending out long dendritic processes which pull on these intersecting strands.

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*Merck, Sharp & Dohme, and Cutter Laboratories.

Platelets are now known to have a contractile protein similar to muscle actomyosin.[34] The bulky clot is therefore pulled into a small tough patch covering the break in the endothelium.

Studies on platelet life-span are becoming available now that some of the technical problems of platelet labeling are being solved.[1,13,39] Reports thus far indicate that most patients with acute idiopathic thrombcytopenic purpura (ITP) have profound shortening of platelet survival.[39] There is a report that some patients with chronic ITP have slight shortening of platelet survival but a more serious impairment of platelet production. One patient in this group improved after splenectomy.[13]

In contrast, patients with thrombocytopenia due to hypersplenism have generally shown a rather normal platelet survival indicating that the thrombocytopenia is induced by a platelet production defect.[39] Removal of the spleen in some of these patients has resulted in a return in platelet count to normal with the platelet survival remaining normal.[14]

These observations raise again the possibility, discarded over the last few years, that the spleen may exert a humoral depressant effect on megakaryocytes and that removal of the spleen removes this source of humoral suppression. In the presence of enlargement of the spleen, this suppressive effect becomes intensified and can be corrected by the surgical removal of the spleen.[15,27]

Comment

Although recent advances in hematology have greatly improved our understanding of the kinetics and sites of red blood cell destruction and production, we are, for the most part, still ignorant of the underlying causes of the destruction. How deficiency of vitamin B_{12} leads to neurological disease is still not known. We are a long way from being able to protect a hemophiliac patient from hemorrhagic episodes by a simple injection that could be given several times weekly. These questions are under active attack in several laboratories and perhaps the next few years will supply some answers.

Department of Medicine, Stanford Medical Center, 300 Pasteur Drive, Palo Alto, California 94304.

REFERENCES

1. Aster, R. H., and Jandl, J. H.: Sequestration of human platelets, Clin. Res., 11:189, 1963.

2. Baldini, M., Fudenberg, H. H., Fukutake, K., and Dameshek, W.: The anemia of the di Guglielmo syndrome, Blood, 14:334-363, 1959.

3. Barness, L. A., Young, D., Mellman, W. J., Kahn, S. B., and Williams, W. J.: Methyl malonate excretion in a patient with pernicious anemia, New Eng. J. Med., 268:144-146, 1963.

4. Barrett, P. V. D., Cline, M. J., and Berlin, N. I.: The association of the urobilin "early peak" and erythropoiesis, Clin. Res., 12:108, 1964.

5. Beck, W. S.: The metabolic functions of vitamin B_{12}, New Eng. J. Med., 266:708-714, 765-771, 814-817, 1962.

6. Berman, H. J.: and Fulton, G. P.: Platelets in the peripheral circulation, pp. 7-20, in Blood Platelets, Henry Ford Hospital, International Symposium, Little, Brown & Co., 1961.

7. Bessis, M. C., and Breton-Gorius, J.: Iron metabolism in the bone marrow as seen by electron microscopy: A critical review, Blood, 19:635-663, 1962.

8. Booth, C. C., and Mollin, D. L.: Site of absorption of vitamin B_{12} in man, Lancet, 1:8-21, 1959.

9. Born, G. V. R., and Cross, M. J.: Effect of adenosine diphosphate on the concentration of platelets in circulating blood, Nature, 197:974-976, 1963.

10. Bowman, W. D., Jr.: Abnormal ("ringed") sideroblasts in various hematologic and non-hematologic disorders, Blood, 18:662-671, 1961.

11. Butterworth, C. E., Jr., Santini, R. Jr., and Frommeyer, W. B., Jr.: The pteroylglutamate components of American diets as determined by chromatographic fractionation, J. Clin. Invest., 42:1929-1939, 1963.

12. Chanarin, I., Dacie, J. V., Mollin, D. L.: Folic acid deficiency in hemolytic anemia, Brit. J. Haemat., 5:245-256, 1959.

13. Cohen, P., Gardner, F. H., and Barnett, G. O.: Reclassification of the thrombocytopenias by the Cr^{51} labeling method for measuring platelet life span, New Eng. J. Med., 264:1294-1299, 1350-1355, 1961.

14. Cooney, D. P.: Personal communication, 1964.

15. Crosby, W. H.: Hypersplenism, Ann. Rev. Med., 13:127-146, 1962.

16. Crosby, W. H., and Sheehy, T. W.: Hypochromic iron loading anemia, studies of iron and hemoglobin metabolism by means of vigorous phlebotomy, Brit. J. Haemat., 6:56-65, 1960.

17. Drapanas, T., Williams, J. S., McDonald, J. C., Heyden, W., Bow, T., and Spencer, R. P.: Role of the ileum in the absorption of vitamin B_{12} and intrinsic factor, J.A.M.A., 184:337-341, 1963.

18. Gaarder, A., Jonsen, J., Laland, S., Hellem, A., and Owren, P. A.: Adenosine diphosphate in red cells as a factor in the adhesiveness of human blood platelets, Nature, 192:531-532, 1961.

19. Finch, C. A., Coleman, D. H., Motulsky, A. G., Donohue, D. M., and Reiff, R. H.: Erythrokinetics in pernicious anemia, Blood, 11:807-820, 1956.

20. Girdwood, R. H.: The role of folic acid in blood disorders, Brit. Med. Bull., 15:14-18, 1959.

21. Gräsbeck, R.: Maintenance treatment in pernicious anemia, Lancet, 1:206-207, 1959.

22. Halsted, J. A., Lewis, P. M., and Gasster, M.: Absorption of radioactive vitamin B_{12} in the syndrome of megaloblastic anemia associated with intestinal stricture or anastomosis, Amer. J. Med., 20:42-52, 1956.

23. Haurania, F. I., and Tocantins, L. M.: Ineffective erythropoiesis, Amer. J. Med., 31:519-531, 1961.

24. Herbert, V.: Current concepts in therapy: megaloblastic anemia, New Eng. J. Med., 268:201-203, 368-371, 1963.

25. Herbert, V., Cooper, B. A., and Castle, W. B.: The site of vitamin B_{12}-intrinsic factor complex "releasing factor" activity in the rat small intestine, Proc. Soc. Exp. Biol., 110:315-317, 1962.

26. Herbert, V., and Zalusky, R.: Interrelations of vitamin B_{12} and folic acid metabolism: Folic acid clearance studies, J. Clin. Invest., 41:1263-1276, 1962.

27. Hjort, P. F., and Paputchis, H.: Platelet life span in normal, splenectomized, and hypersplenic rats, Blood, 15: 45-51, 1960.

28. Horrigan, D. L., Whittington, R. M., Weisman, R., Jr., and Harris, J. W.: Hypochromic anemia with hyperferricemia responding to oral crude liver extract, Amer. J. Med., 22:99-106, 1957.

29. Israels, L. G., Yamamato, T., Skanderberg, J., and Zipursky, A.: Shunt bilirubin: Evidence for two components, Science, 139:1054-1055, 1963.

30. Klipstein, F.: Subnormal serum folate and macrocytosis associated with anticonvulsant drug therapy, Blood, 23:68-86, 1964.

31. Lindenbaum, J., and Klipstein, F.: Folic acid deficiency in sickle cell anemia, New Eng. J. Med., 269:875-882, 1963.

32. London, I. M., and West, R.: The formation of bile pigment in pernicious anemia, J. Biol. Chem., 184:359-364, 1950.

33. London, I. M., West, R., Shemin, D., and Rittenberg, D.: The origin of bile pigment in normal man, J. Biol. Chem., 184:351-358, 1950.

34. Lüscher, E. F.: Retraction activity of the platelets: Biochemical background and physiological significance, pp. 445-453, in Blood Platelets, Henry Ford Hospital International Symposium, Little, Brown & Co., 1961.

35. McMillan, C. W., Diamond, L. K., and Surgenor, D. M.: Treatment of classic hemophilia: The use of fibrinogen rich in Factor VIII for hemorrhage and for surgery, New Eng. J. Med., 265:224-230, 277-283, 1961.

36. Mendel, G. A., Weiler, R. J., and Mangalik, A.: Studies on iron absorption II: The absorption of iron in experimental anemias of diverse etiology, Blood, 22:450-458, 1963.

37. Moeschlin, S., and Schnider, U.: Treatment of primary and secondary hemochromatosis and acute iron poisoning with a new potent iron eliminating agent, Desferrioxamine-B, New Eng. J. Med., 269:57-66, 1963.

38. Mollin, D. L.: The megaloblastic anemias, Ann. Rev. Med., 11:333-352, 1960.

39. Najean, Y., Ardaillon, N., Caen, J., Larrieu, M. J., and Bernard, J.: Survival of radiochromium-labeled platelets in thrombocytopenias, Blood, 22:718-732, 1963.

40. Nathan, D. G., and Berlin, N. I.: Studies of the production and life span of erythrocytes in myeloid metaplasia, Blood, 14:668-682, 1959.

41. Nathan, D. G., Gardner, F. H., and Lemire, V. H.: Erythroid cell maturation and hemoglobin synthesis in megaloblastic anemia, J. Clin. Invest., 41:1086-1093, 1962.

42. O'Brien, J. R.: Some effects of adrenaline and anti adrenaline compounds on platelets *in vivo* and *in vitro*, Nature, 200:763-764, 1963.

43. Pollycove, M., and Mortimer, R.: The quantitative determination of iron kinetics and hemoglobin synthesis in human subjects, J. Clin. Invest., 40:753-782, 1961.

44. Pool, J. G.: Thromboplastin formation, Ann. Rev. Med., Vol. 15, 1964 (In Press).

45. Pool, J. G., and Hershgold, E. J.: Personal communication, 1964.

46. Pool, J. G., and Robinson, J.: Assay of plasma antihemophilic globulin (AHG), Brit. J. Haemat., 5:17-23, 1959.

47. Raab, S. O., Haut, A., Cartwright, G. E., and Wintrobe, M. M.: Pyridoxine responsive anemia, Blood, 18:285-302, 1961.

48. Redmond, O. A. B., Robertson, J. H., and Nelson, M. G.: Familial hypochromic anemia with hyperferricemia, Brit. Med. J., July 13, 1963, 89-93.

49. Resnick, R., Coleman, R., London, A., and Richter, H.: Abnormal Schilling test corrected by intestinal juice, New Eng. J. Med., 268:926-929, 1963.

50. Sharp, A. A.: Platelet (viscous) metamorphosis, pp. 67-88, in Blood Platelets, Henry Ford Hospital International Symposium, Little, Brown & Co., 1961.

51. Strauss, E. W., Donaldson, R. M., and Gardner, F. H.: A relationship between intestinal bacteria and the absorption of vitamin B_{12} in rats with diverticula of the small bowel, Lancet, 736-738, Sept. 30, 1961.

52. Sturgeon, P., and Finch, C. A.: Erythrokinetics in Cooley's anemia, Blood, 12:64-73, 1957.

53. Taylor, K. B.: Personal communication, 1964.

54. Taylor, K. B., Roitt, I. M., Doniach, D., Couchman, K. C., and Shapland, C.: Autoimmune phenomena in pernicious anemia: gastric antibodies, Brit. Med. J., 2:1347-1352, Nov. 24, 1962.

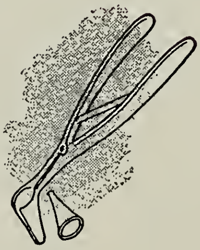
55. Veeger, W., Abels, J., Hellemans, N., and Nieweg, H. O.: Effect of sodium bicarbonate and pancreatin on the absorption of vitamin B_{12} and fat in pancreatic insufficiency, New Eng. J. Med., 267:1341-1344, 1962.

56. Waters, A. H., and Murphy, M. E. B.: Familial juvenile pernicious anemia: Study of hereditary basis of pernicious anemia, Brit. J. Haemat., 9:1-12, 1963.

57. Williams, A. M., Chosy, J. J., and Schilling, R. F.: Effect of vitamin B_{12} *in vitro* on incorporation of nucleic acid precursors by pernicious anemia bone marrow, J. Clin. Invest., 42:670-674, 1963.

58. Witts, L. J.: Some aspects of the pathology of anemia, Brit. Med. J., 2:325-328, Aug. 5, 404-410, Aug. 12, 1961.

59. Zalusky, R., Herbert, V., and Castle, W.: Cyanocobolamin therapy effect in folic acid deficiency, Arch. Intern. Med., 109:545-554, 1962.



Neoplasms of the Kidney and Adrenal Gland

CLAIR E. COX, *M.D.*, Winston-Salem, North Carolina, and DONALD R. SMITH, *M.D.*, San Francisco

ALMOST ALL clinically demonstrable neoplasms of the kidney are malignant or have malignant potentialities. Their clinical manifestations often present obscure diagnostic problems. Early suspicion leading to thorough but usually simple diagnostic procedures provides the patient with the best possible hope for survival.

For practical purposes this discussion will be limited to the three most common types of renal tumors. These three, renal cell carcinoma, nephroblastoma (or Wilms' tumor) and carcinoma of the renal pelvis, account for approximately 97 per cent of all malignant renal neoplasms. The remaining 3 per cent are various sarcomatous lesions.

Pathology

Renal cell carcinoma. This tumor accounts for about 75 to 85 per cent of all renal neoplasms. Various names are still applied to this tumor such as Grawitz tumor, hypernephroma, clear cell carcinoma, adenocarcinoma and alveolar carcinoma. The tumor arises in the renal epithelial cells and is generally considered to originate from mature renal parenchyma. There is considerable speculation that renal cell carcinomas may arise from benign renal adenomas. The tumor almost exclusively occurs in adults, usually those in the sixth and seventh decades. Only 51 cases have been reported in children. Males predominate about 2 to 1 and this suggests a hormonal relationship.

The tumor occurs in the left and right kidney with equal frequency and usually arises in one of the renal poles. As the neoplasm expands it compresses adjacent renal tissue and displaces calyces, blood vessels and the pelvis, which then become distorted and tend to surround the mass. With additional enlargement, adjacent organs may be displaced. Metastasis often occurs early in the disease but the lesions are not necessarily related to the size and local extent of the tumor. On many occasions distant metastasis may be the initial symptom of the disease. The tumor may extend directly into the perirenal tissues or by a rich lymphatic network to the regional and para-aortic lymph nodes. Renal vein invasion is common, providing early access to the blood stream. Metastases to the lung are common and often occur early in the disease. The liver and bones are frequent sites of metastatic spread. The vertebrae, pelvis, femur and humerus are the principal osseous sites. Almost every organ in the body has been reported as having been a metastatic site of this disease.

On gross section the tumor usually has a well-defined fibrous capsule. It is yellow and often contains red or brown areas of hemorrhage and necrosis. Cystic degeneration may occur and calcification may be present. Microscopically, varying patterns of cells may be seen even in the same tumor. In general the cells resemble renal tubular cells and have small eccentric nuclei and an abundant clear cytoplasm. At times the cytoplasm may be more opaque and granular, thus leading to the term granular or dark cell carcinoma which some investigators believe is associated with a slightly better prognosis. However, in our experience the type of cell has been of little or no value in determining the prognosis.

Nephroblastoma (Wilms' tumor, embryoma, adenomyosarcoma). This lesion also arises from the renal parenchyma. However, unlike renal carcinoma, the tumor takes its origin from immature renal tissue. It is considered by most investigators to be congenital and to arise from embryonal cells trapped in the kidney. The tumor accounts for about 6 per cent of all renal neoplasms and about 20 per cent of all malignant lesions of childhood. Along with neuroblastoma it is the most common intra-abdominal neoplasm in children. Although Wilms' tumor does occur in adults, it is predominantly a disease of childhood (90 per cent of cases during the first seven years of life) and it has even been reported in the newborn and in fetuses. There appears to be no difference in incidence between the sexes and the tumor occurs with equal frequency in either kidney. It is bilateral in 2 to 5 per cent of the cases. The neoplasm has been found in association with other types of renal anomalies.

From the Division of Urology, University of California School of Medicine, San Francisco, California 94122.

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Nephroblastoma may arise in any portion of the kidney. It usually becomes large before it is discovered. As with renal cell carcinoma, metastasis often occurs early in the disease, most commonly to the lung. The tumor is covered by a fibrous capsule which is usually intact, but venous and lymphatic invasions are common. Direct extension eventually results in compression of adjacent renal tissue and local metastasis. Renal vein invasion is a common finding at the time of exploration.

The tumors are usually large — often much larger than the kidney. They are often spherical and the surface is smooth or slightly lobulated and is usually covered by large, thin-walled veins. On section the tumor is yellow or grey and heterogeneous; hemorrhagic and cystic areas are often present. Microscopically the major tissues are of connective tissue origin: muscle, cartilage and myxomatous or lipomatous tissue. The epithelial tissue may be undifferentiated or resemble renal tubules or even glomeruli.

Carcinoma of the renal pelvis. About 5 to 10 per cent of all renal neoplasms are carcinomas of the pelvis. The tumors arise from the pelvic and calyceal mucosa and are therefore transitional in cell structure. Rarely, squamous cell carcinoma occurs and it is usually associated with chronic infection or calculous disease. The transitional cell lesions are usually papillary and less commonly are solid or sessile. Their behavior resembles that of the papillary and solid growths of the bladder, which they look like.

The cause of these lesions is unknown, but their tendency to "seed" in the ureter and bladder suggests that the mucosa generally is susceptible to such change. The metabolites of tryptophan have recently been suspected as carcinogenic agents. The uncommon squamous cell lesions seem to be the result of chronic irritation, as from infection or calculous disease.

Some of these papillomata appear benign histologically, but the final opinion must rest with the clinical behavior. The papillary lesions tend to be of lowgrade malignancy and usually do not infiltrate the underlying supporting stroma, yet their clinical course is sometimes most malignant. The solid lesions are usually more anaplastic and are usually infiltrative. Epidermoid varieties are almost always invasive and fatal.

Transitional cell carcinoma of the renal pelvis tends to be multicentric, and similar tumors are often seen in the ipsilateral ureter and bladder. In the bladder the tumors often are close to the ureteral orifice in question. Distant metastasis does occur but is less common than with the renal parenchymal tumors. The regional lymph nodes and the renal vein, however, may be involved. Grossly the papillary lesions are pinkish with many delicate fronds. When they originate near a calyx or the ureteropelvic junction, obstruction (hydrocalyx, hydronephrosis or complete obstruction of a renal segment) is produced. Microscopically, these tumors show a central core of connective tissue which is covered by transitional epithelium. Invasion of the supporting structures and underlying muscle is variable.

Symptoms, Signs and Diagnosis

Renal cell carcinoma. Gross total hematuria, usually without pain, is the single most common symptom of renal carcinoma; it occurs in 50 to 80 per cent of cases. The classical triad of pain, tumor and hematuria is uncommon as a presenting symptom complex and its occurrence suggests an advanced neoplasm. Pain simulating renal colic may occur with the passage of clots or tumor tissue down the ureter. The incidence of pain of a more vague nature is variable and is usually a late symptom. Pain or discomfort related to the mass of the tumor is usually of a dull type felt in the back, resulting from ureteral compression, perirenal extension, hemorrhage into the tumor or nerve root irritation. A palpable abdominal mass is also uncommon but occasionally a patient may be first seen because he himself has palpated a renal mass. Patients with certain hereditary diseases such as tuberous sclerosis and Lindau-von Hippel's disease have been noted to have a higher incidence of renal neoplasia.

"Non-urologic" symptoms are exceedingly common and often are the only manifestation of renal carcinoma. In some series one-third of the patients had no clinical indication of renal disease, but instead had vague, seemingly unrelated episodes of nonspecific symptomatology. These nonspecific symptoms, although legion in number and variable in occurrence, may precede the more common symptoms of renal neoplasm by weeks or months. Unexplained fever with or without weakness, anorexia and loss of weight may be present and indeed may sometimes be the only complaint. Gastrointestinal complaints resembling the syndromes of peptic ulcer or gallbladder disease may be the result of renal neoplasia. They are caused by reflex action or by invasion or displacement of contiguous organs. In addition, not infrequently a renal tumor is first brought to notice by the presence of a distant metastatic lesion such as a painful swollen femur or a thoracic tumor observed on routine x-ray examination.

Physical signs are of limited diagnostic value in this disease. The tumor may be palpable but usually it is not. Nonspecific signs of neoplasia often indicate a late stage of the disease. An acute varicocele (usually on the left side) indicates obstruction of the spermatic vein by tumor. In our experience this is exceedingly rare. Other vascular phenomena, a result of vena caval obstruction such as edema of the legs and dilated abdominal veins, indicate inoperability.

Urinalysis may reveal microscopic hematuria although gross bleeding is more common. Anemia often is present when the disease is advanced. Total renal function is usually not impaired. Polycythemia (erythrocytosis) has recently been noted to occur in 3 to 4 per cent of patients with renal cell carcinoma. This finding is, however, not specific for renal cancer, as evidenced by the recent reports of polycythemia associated with other lesions. Hypercalcemia with or without metastasis to bone has also been noted to occur with renal carcinoma.

The ultimate diagnosis of renal carcinoma depends upon simple x-ray techniques. A plain film of the abdomen often shows enlargement of a kidney and a bulge of its contour. The psoas outline may be obscured if a solid tumor overlies it. If the tumor is a cyst, the psoas may be visible through it. The renal axis may be displaced in any direction, depending upon the location of the tumor. Calcification may be seen within a tumor shadow or in the rim of a "cystic" lesion. A low position of the left kidney cannot be ignored. Excretory urograms usually show a filling defect caused by a space-occupying lesion. The collecting structures, usually the calyces and less commonly the pelvis and ureter, are distorted. Hydronephrosis is rare. Renal function as evidenced by visualization of the collecting structures is usually good and nonfunction strongly suggests renal vein occlusion by the tumor. The diagnostic accuracy of the intravenous urogram is excellent and therefore retrograde pyelograms are not often necessary. They are indicated only in instances in which the function of the contralateral kidney is in question or when intravenous visualization is poor. If the patient has gross hematuria when seen, immediate cystoscopy will demonstrate its source. Postponement of this valuable diagnostic aid is an error, as bleeding from renal tumors is usually intermittent.

Special studies are seldom necessary in the diagnosis of renal carcinoma, as the excretory urogram (or retrograde pyelogram) most often reveals a space-occupying lesion, and if this is coupled with sufficient clinical evidence, usually hematuria, the diagnosis is satisfactorily established. There are, however, definite indications for the various special radiographic and isotopic studies. This occurs when bilateral lesions are suspected, where a space-occupying lesion is found on a "routine" excretory urogram (usually in a patient without urological symptoms) or the age and general condition of a patient would negate surgical treatment if a *reasonable assurance* that a space-occupying lesion was not cancer (a cyst, for example) could be ascertained. Angionephrotomography has its greatest usefulness in the differentiation of renal cyst and tumor. Briefly, this technique involves the rapid intravenous infusion of a bolus of radiopaque material which opacifies vascularized tissues in the kidney. The space occupied by a cyst fails to opacify; a malignant tumor shows increased opacification because of its increased blood supply.

Further differentiation between cyst and tumor can be made by renal arteriography either by the retrograde femoral technique or by direct lumbar needle puncture of the aorta. This procedure demonstrates the renal circulation, produces a dense renal shadow and may show a bulge on renal outline indicating a mass. A cyst will show no positive shadow at all. Due to the great vascularity of a tumor, pooling of the opaque material may occur within it on the delayed films. These two types of studies are therefore of aid in the differential diagnosis of renal space-occupying lesions. However, a positive diagnosis of a cystic lesion can only be made by operative exploration, for it is surprising how commonly cyst and renal tumor are confused, even with proper arteriography and angionephrotomography. Furthermore, 5 to 10 per cent of cysts have cancer in their walls, so all simple cysts must be assumed to be malignant until proved otherwise. In our experience larger cysts and those which contain calcium in their walls are more apt to contain a neoplasm.

If the lesion is intrarenal and at operation the exterior of the kidney appears normal, nephrectomy is the treatment of choice, the clinical history having been considered carefully. Nephrotomy and frozen section biopsy has been suggested, but in our opinion it is contraindicated. Fortunately, most cysts bulge from the exterior of the kidney and the wall may be unroofed, affording inspection of the interior. The presence of hemorrhagic fluid within the cyst is an ominous sign and often denotes malignant change.

Renal scintillation scanning (photoscanning) is a new technique which may prove to be a valuable adjunct in the diagnosis of renal space-occupying lesions. Neohydrin labeled with radioactive mercury is given intravenously and 45 minutes later the renal areas are scanned for radioactivity. The radioisotope concentration of normally functioning renal parenchyma is good and uniform, whereas the concentration over space-occupying lesions is nil, thereby outlining the renal mass. The same results are obtained with cyst or tumor. The photoscan appears to be of considerable help when pyelographic evidence is equivocal and if bilateral lesions are suspected.

Nephroblastoma. The most common symptom and sign of nephroblastoma is a large abdominal mass discovered by the child's parents. Rarely, pain may be experienced by local extension or ureteral compression. Hematuria is unusual but other rather vague symptoms such as anorexia, loss of weight or vomiting are often present. A palpable mass in the flank of a child under six or seven years of age must be regarded as a nephroblastoma (or neuroblastoma of the adrenal) until proved not to be. The liver and lungs may contain metastatic lesions when the child is first seen by a physician.

Renal function and results of urinalysis are usually within normal limits. Urinary cytology is of little or no diagnostic aid. A plain abdominal x-ray film will reveal a mass in the kidney region, often with displacement of bowel and indication of stomach gas. Intravenous urograms most often establish the diagnosis by revealing pronounced distortion of the pelvis and calyces, although sometimes the dye is not excreted. Retrograde pyelograms, if necessary, will reveal in more detail the intrarenal distortion caused by a space-consuming lesion. A suprarenal lesion (neuroblastoma) may cause displacement of the kidney but without distortion of the intrarenal structures. Special radiographic and isotopic studies cannot significantly improve on the diagnostic accuracy of the urographic or pyelographic examinations.

Carcinoma of the renal pelvis. The signs and symptoms of this tumor are not unlike those associated with the much more common parenchymal carcinoma of the kidney. The most common symptom is massive hematuria, usually without pain but occasionally associated with colic due to clot or tumor bolus passage or with dull flank ache due to hydronephrosis or hydrocalyx. Urograms in the case of patients with bladder carcinoma (which we do routinely) may occasionally reveal a renal pelvic carcinoma. It is not uncommon for this lesion to be discovered some years after the diagnosis of bladder carcinoma.

Physical examination is usually not helpful. Tenderness may be present if hydronephrosis exists and generalized signs of carcinoma may be obvious. The urine may contain blood cells but this symptom is often intermittent. Infection may be present and in our experience the coccal organisms are often the infecting agents. The methylene blue stain of the urinary sediment (which is done on all urologic patients) may reveal epithelial cells. Squamous epithelial cells are normal in the urine of females and in males taking estrogens for the control of cancer. However, transitional epithelial cells are distinctly abnormal unless there is a urinary tract infection. Therefore, the presence of transitional epithelial cells, especially if abnormal in appearance (large nuclei and in clumps) strongly suggests a transitional carcinoma of the urinary tract. Further x-ray studies are of course required to pinpoint the site of the lesion.

Intravenous urograms or, if necessary, retrograde pyelography will establish the diagnosis in almost all cases. Unlike renal cell carcinoma, where a filling defect in the renal parenchyma is noted, these lesions basically produce filling defects in the pyelocalyceal system with or without varying degrees of hydronephrosis or hydrocalyx. The lesion may arise near the ureteropelvic junction and produce hydronephrosis or even nonfunction. The basic pattern of a filling defect often leaves one with a differential diagnosis of tumor, nonopaque stone or blood clot. Operative exploration is often necessary, especially if the clinical course is not helpful. Tuberculosis may mimic renal pelvic carcinoma, and urinary acid-fast studies are therefore sometimes indicated. Special radiographic studies are rarely needed.

Treatment and Prognosis

Renal cell carcinoma. Nephrectomy including *en bloc* removal of the perinephric fat is the treatment of choice. The ureter need not be removed. The nephrectomy may be accomplished transabdominally, transthoracically or through the conventional flank approach, depending upon the anticipated technical details, the experience of the surgeon and the physical stature of the patient. To prevent intravenous infusion of tumor cells, the renal vein or entire renal pedicle should be ligated before the kidney is manipulated.

Occasionally renal lesions may not be discernible either visually or by palpation at the time of operation. It is our opinion that if a preoperative diagnosis of a space-consuming lesion has been properly made and the other kidney is normal, nephrectomy is indicated regardless of normal appearance. If a simple "blue-domed" cyst is encountered, the wall should be excised. Papillary growths within the cyst require that nephrectomy be performed. Hemorrhagic cysts should be treated as neoplasms requiring nephrectomy.

Nephrectomy is generally contraindicated if metastatic lesions are demonstrable. Regression of such lesions after removal of the renal primary has been reported, but this is exceedingly rare. In addition, nephrectomy may be contraindicated if the tumor is considered to be large and fixed or if the general condition of the patient is too poor to permit operation. Renal vein invasion, which can be anticipated by the absence of function by intravenous urograms, also may preclude operative treatment. In rare instances severe hemorrhage may necessitate nephrectomy even in the presence of metastasis. Erythrocytosis, hypercalcemia, fever and other generalized symptoms usually disappear after nephrectomy but may recur if metastasis occurs.

Renal cell carcinoma and lesions metastatic from it are usually quite radioresistant. Most authorities agree that x-ray therapy is therefore not indicated either preoperatively or postoperatively but that it may be used palliatively to control the primary tumor, or osseous metastasis. There are a few proponents of x-ray therapy in this disease but the results they report are difficult to evaluate. Chemotherapy also has been generally unsuccessful in the management of renal adenocarcinoma. However, the possibilities in this field continue to be explored and one can only hope that the newer chemotherapeutic agents will be less toxic and more effective.

The prognosis in this disease is poor. About 25 per cent of the patients are alive five years after nephrectomy. The outlook is worse if the renal vein is involved, if distant metastasis has occurred, if the histologic grade is high and if the tumor is large. Not uncommonly metastatic lesions develop ten to fifteen years after removal of the primary growth. The percentage of cure can only be increased by more intensive urologic investigation of patients with hematuria, microscopic or gross, persistent, transient or intermittent.

Nephroblastoma. For nephroblastoma, nephrectomy combined with radiation therapy is the treatment of choice. In 1959 Klapproth reviewed the world literature and reported 282 cases treated by nephrectomy alone. This group had a 20.9 per cent cure rate. A cure rate of approximately 30 per cent can be attained by the combination of radiation therapy and nephrectomy. There is no unanimity of opinion as to whether the x-ray therapy should be given preoperatively, postoperatively or both; and there is no good statistical evidence to support any one method. In general, for various technical reasons, most surgeons prefer nephrectomy followed by radiation therapy. Preoperative radiation therapy usually decreases the vascularity and causes dramatic shrinkage of the tumor in one or two weeks. (If this does not occur, the diagnosis of Wilms' tumor should be reconsidered.) This is helpful if a large tumor is to be removed through the flank but we prefer the transperitoneal approach for renal tumors in children, and therefore tumor size is less important.

If metastasis has occurred, nephrectomy is usually not indicated. However, x-ray therapy will usually cause rapid regression in the size of the primary and also the metastatic sites. These tumors and the metastatic lesions are very radiosensitive. In addition, chemotherapy has recently been demonstrated to have a palliative effect on them. The most useful chemotherapeutic drug is actinomycin D.

In the absence of demonstrable metastasis, about 30 per cent of patients will be cured by radiation therapy and nephrectomy. About 85 per cent of the children who do not survive this disease die within the first year. Some observers feel a cure may be assumed if the child survives for two or three years, but Riches has stated that metastasis has been reported five years after nephrectomy and local recurrence after eight years. In general, the younger the child at the time of diagnosis and treatment, the better the prognosis.

Renal pelvic carcinoma. The treatment of choice is nephroureterectomy with excision of the periureteral portion of the bladder. This radical approach is contraindicated if metastasis has occurred. However, even if distant metastatic disease is present, nephrectomy may be indicated for relief of pain or bleeding. Unlike their histologic counterpart occurring in the bladder, renal pelvic tumors are radioresistant. Irradiation therapy is therefore of little benefit.

The prognosis is better than for renal parenchymal carcinoma. This is especially true for the more benign, non-infiltrating papillary lesions, but less so for the solid infiltrating lesions and the squamous cell variety. Fifty to 75 per cent of patients with lowgrade malignant disease are alive after five years. Those with more undifferentiated solid lesions have a five-year survival of about 25 per cent or less. Epidermoid carcinoma is almost always fatal within one year.

Sarcomas comprise about three per cent of all renal malignant neoplasms. They are made up of smooth or striated muscle, fibroblastic tissue or fat and may become quite large, filling the flank. The signs and symptoms are usually the presence of a mass and local pain. Hematuria is not common. Spontaneous perirenal hemorrhage may cause the first symptoms. The diagnosis is essentially the same as for renal cell carcinoma. Preoperative differentiation from other mass lesions is impossible. Treatment is nephrectomy and the prognosis is poor.

The kidney is a common metastatic site for tumors. In one large series of 649 autopsies performed on patients with carcinoma, metastasis to the kidney was found in 42, 32 of which were from the bronchus. Most of these metastatic lesions are unapparent clinically. If hematuria does occur, it is difficult to differentiate metastatic disease from primary renal carcinoma.

As was stated previously, benign renal neoplasms are usually asymptomatic and are not seen by pyelography. Occasionally these renal adenomata may become big enough to simulate a renal carcinoma and they should then be treated as such, because the preoperative diagnosis of benign renal adenoma is impossible.

ADRENAL GLAND

Neoplasms of the adrenal gland in almost all cases present clinical symptoms and signs which are peculiar to the type of adrenal hormones that they are elaborating in excess. Therefore, clinically important and recognizable adrenal tumors are described as being endocrine tumors. These lesions may arise in the cortex or the medulla of the adrenal. Non-endocrine adrenal tumors are clinically rare and are usually benign.

Tumors of the adrenal cortex are principally the cortical adenoma and cortical carcinoma. (Cortical nodules are a frequent autopsy finding and may be the source of the adenomas and carcinomas.) Nonfunctioning adrenal cortical tumors, both malignant and benign, have been reported but are unusual. It is often difficult to distinguish between cortical carcinoma and adenoma histologically and the differentiation often depends on clinical behavior, endocrine studies and evidence of metastasis. Tumors of the adrenal medulla are derived from primitive nerve tissue common to the sympathetic ganglia and the medullary tissue. Pheochromocytoma is the common tumor of this type. This lesion is rarely malignant in that metastasis is most unusual and local invasiveness is not common. The highly malignant neuroblastoma of the adrenal medulla which is seen in infancy and childhood was discussed under the differential diagnosis of Wilms' tumor of the kidney. This lesion ordinarily presents as an abdominal mass in a young child. Most of these tumors excrete dopamine and norepinephrine which are converted into homovanillic and vanilmendalic acids. Excessive amounts of one or both of the latter substances are therefore usually found in the urine. The treatment is operation and roentgen therapy.

The clinical diagnosis of an adrenal tumor in almost all cases is suspected by the presence of signs and symptoms produced by the overproduction of adrenal hormones. Diagnostic studies proceed along two basic lines: (1) anatomic or radiologic methods to show the actual presence of an adrenal mass, and (2) endocrinologic investigations which measure the type of and the amount of hormones which are being excessively produced, thereby identifying the tumor type.

Radiologic investigation should begin with an excretory urogram. A soft tissue shadow may be noted above the kidney and the kidney may be displaced by a suprarenal mass. The calyceal system is ordinarily not distorted, as adrenal tumors rarely invade the kidney. Because they are small, many adrenal tumors (and hyperplasia) are not seen by this screening test. Presacral pneumography (retroperitoneal gas study) has proved to be of great value in outlining the adrenal glands and is the single best anatomic method of demonstrating an adrenal tumor. A few of the smaller tumors (and hyperplasia) may not be seen by this study but because it is simple to perform and has been innocuous in our hands, it is indicated whenever an adrenal tumor is suspected. Aortography of adrenal tumors has been unrewarding but some success has recently been reported with pheochromocytomas.

Tumors of the adrenal cortex produce three basic endocrinologic syndromes, depending upon the type of hormones which are being elaborated in excess: (1) adrenogenital syndrome and its variants: virilization, precocious puberty and feminization; (2) Cushing's syndrome; and (3) primary aldosteronism. These diagnoses can be established by clinical evaluation of the patient, radiographic studies and endocrinologic data.

The "adrenogenital syndrome" and its variants are produced by disorders (tumor or hyperplasia) in the zona reticularis of the adrenal cortex. The classic example is the congenital adrenal syndrome seen primarily in newborn female infants and caused by adrenal hyperplasia due to an enzyme block in the production of hydrocortisone, with a resultant overproduction of adrenal androgenic substances. Virilization (intersexuality) is the predominant feature, along with variable metabolic and electrolytic defects. If this syndrome occurs after birth or up to the age of 12 (acquired adrenogenital syndrome), it is usually, if not always, due to tumor. Again the basic feature is virilization (but without intersexuality) in the female and, less commonly, precocious puberty in the male. (Precocious puberty in young males is rarely due to adrenal tumor). In addition to virilization the overproduction of androgens in these children produces rapid growth, increased muscularity and premature closure of the epiphyses. Frequently signs and symptoms of Cushing's syndrome (hydrocortisone overproduction) are present in addition to the virilizing androgenic effects. The adrenogenital syndrome (usually some degree of virilization) may occur in the adult female, and in about 50 per cent of the cases this is due to tumor. The diagnosis of virilizing adrenal disorders is made by the finding of an overproduction of androgenic metabolites (17-ketosteroids) in the urine. If the condition is due to tumor, the 17-ketosteroid levels are often very high and are not influenced by tests of suppression and stimulation. Feminizing adrenal cortical tumors which usually produce gynecomastia in the male child and adult are uncommon.

Cushing's syndrome is produced by hyperplasia or tumor of the zona fasciculata of the adrenal cortex. The metabolic abnormality is an overproduction of hydrocortisone which is measured in the urine as 17-hydroxysteroids. The classic full-blown stigmata of Cushing's syndrome are familiar to every medical student and need not be repeated here. The clinical diagnosis is less clear when the syndrome is mixed with signs of excess androgen production (virilization) or where the problem is one of obesity plus hypertension, menstrual irregularities or hirsutism. Tests of stimulation and suppression are helpful in the diagnosis, particularly in the preoperative differentiation of tumor and hyperplasia. In children up to the age of ten the disease is almost always due to tumor. In adults most cases are in women and many are due to hyperplasia. The treatment of Cushing's syndrome caused by tumor is surgical removal.

Primary aldosteronism is a syndrome produced by the excess secretion of aldosterone by the zona glomerulosa of the adrenal cortex. The syndrome is usually caused by a single functioning tumor which is most often benign. In a few instances multiple adenomas and hyperplasia have been found. The usual features of this syndrome are hypertension, which may be mild, low serum potassium with symptoms of potassium depletion such as muscle weakness and fatigue, and an excess excretion of aldosterone in the urine. Hypocalcemia is common but may be absent at certain times and a metabolic alkalosis may be persistent. Many of the patients do not have the classical features of the disease and the diagnosis can therefore be difficult. A useful diagnostic test is the administration of an aldosterone antagonist such as spironolactone which will block the renal tubular effects of aldosterone. In addition, patients with this syndrome have an increased total plasma volume, and this is not found in essential hypertension and Cushing's syndrome. As the tumors are generally small (1 to 3 grams) radiographic demonstration is often impossible. The treatment is surgical excision of the tumor; and if preoperative localization is not obtained, bilateral exploration is necessary.

Functioning tumors of the adrenal medulla (pheochromocytomas) are among the most interesting tumors in medicine. They secrete excess amounts of norepinephrine and epinephrine which are measured in the urine as catecholamines. These tumors occur with equal frequency in males and females, most commonly between the ages of 20 and 50. About 90 per cent are located in one adrenal gland but rarely they are bilateral. Extra-adrenal tumors occur in about 10 per cent of the cases, especially along the para-aortic area and occasionally within the bladder. The characteristic feature of the disease is paroxysmal hypertension but many patients have sustained or malignant hypertension. The paroxysmal attacks of hypertension are associated with varying symptoms of anxiety, headache, sweating, nausea, pallor and precordial distress. The prolonged effect of the excessive release of norepinephrine and epinephrine often leads to sustained hypertension and a hypermetabolic state associated with glycosuria. There are two basic types of tests which provide a presumptive diagnosis of pheochromocytoma: (1) Those designed to stimulate the excretion of norepinephrine and epinephrine from the tumor, such as the histamine test and (2) tests designed to inhibit the pressor substances and thus lower the blood pressure, such as the regitine test. However, the best evidence for the presence of the tumor is the direct measurement of urinary and plasma catecholamines. Unfortunately, these levels may not be significantly elevated between paroxysms of hypertension and the diagnosis may therefore depend on a combination of all available diagnostic aids. Preoperative localization of the tumor by radiographic means is usually possible. Treatment of the tumor is surgical excision. Cautious preoperative and postoperative medical management is essential since patients with this disease often have a low blood volume, necessitating preoperative transfusion.

The most direct surgical approach to all adrenal tumors is through the flank, either extrapleural or transpleural. However, if preoperative localization has not been possible, the transabdominal approach or bilateral flank approach is necessary.

U.C. Medical Center, San Francisco, California 94122 (Smith).

A bibliography suggested by the authors may be obtained by writing to the Committee on Cancer, California Medical Association, 875 O'Farrell Street, San Francisco, California 94109.

CANCER STUDIES

Malignant Tumors of the Eye

BRADLEY R. STRAATSMA, *M.D.*, and RAYMOND A. ALLEN, *M.D.*, Los Angeles

MANY OCULAR DISEASES cause loss of vision but malignant tumors are virtually the only fatal disorders of the eye. In ophthalmology, therefore, malignant tumors assume an importance in excess of their incidence. Unfortunately, appraisal of these lesions is complicated by the comparatively numerous and diverse forms of neoplastic disease that are encountered in the highly specialized structures of the eye, the eyelids and the orbit. To reflect this complexity of origin and structure, tumors may be classified as ectodermal, neuroectodermal or mesodermal neoplasms. For clinical correlation, however, the principal forms of malignant growth will be considered topographically as:

1. Tumors of the uveal tract (choroid, ciliary body and iris)
2. Tumors of the retina
3. Tumors of the optic nerve
4. Tumors of the eyelid, conjunctiva, and cornea
5. Tumors of the orbit
6. Tumors metastatic to the eye and orbit

TUMORS OF THE UVEAL TRACT

Malignant Melanoma of the Choroid and Ciliary Body

The most common malignant intraocular tumor is the malignant melanoma. Malignant melanoma occurs only rarely in patients younger than 20 years of age[3] and is most frequently encountered in the fifth and sixth decades of life. There is no significant difference between the sexes in the incidence of this tumor but a difference in incidence by race is striking: Caucasians are affected much more frequently than noncaucasians.[4] Intraocular melanomas may arise from any portion of the uveal tract but are most frequent in the choroid, less often encountered in the ciliary body and least in the iris.

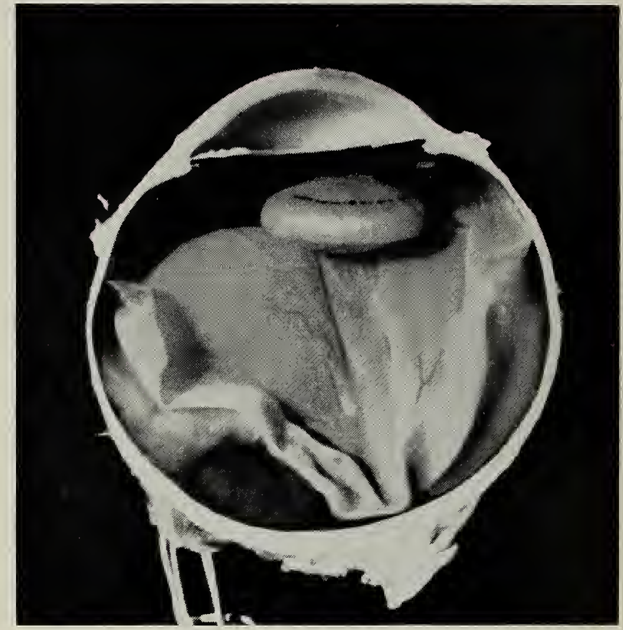

Figure 1.— Malignant melanoma of the posterior choroid. The tumor has extended into the subretinal space producing extensive detachment. The lens displacement is artifactural.

Choroidal malignant melanoma typically develops as a localized mass containing scant, moderate or extensive pigmentation. As it expands, the process frequently extends through the inner layers of the choroid, breaks through Bruch's membrane, penetrates the pigment epithelium, and grows abundantly in the subretinal space to assume a mushroom shape. The sensory retina is frequently adherent to the summit of the enlarging tumor but is only rarely invaded by the neoplasm. In other areas, the sensory retina is separated from the tumor by an accumulation of exudate. The retinal separation associated with some tumors is slight but in others it is great enough to cause total detachment of the retina (Figure 1).

Malignant melanoma of the ciliary body grows as a sharply circumscribed mass in some instances, but it frequently spreads circumferentially in the layers of the ciliary muscle or along the major arterial circle of the eye. As the neoplasm enlarges, it may extend into the anterior chamber angle, involve the iris, displace the lens or invade the choroid.

In both the choroid and the ciliary body, the tumor mass often undergoes degeneration and necro-

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From the Department of Surgery/Ophthalmology, and the Department of Pathology, School of Medicine, University of California, Los Angeles, California 90024.

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sis. Inflammation and hemorrhage are common sequelae of this breakdown. Glaucoma, present in one-third of the cases of ocular malignant melanoma, is occasionally the result of inflammation or hemorrhage, but more often the mechanism is obscure.[8]

Direct extension through the sclera occurs in about 13 per cent of choroidal and ciliary body melanomas.[10] Usually along the ciliary nerves and vessels and less frequently related to the optic nerve and Schlemm's canal, these extrabulbar extensions produce well encapsulated nodules. Necrosis and inflammation of the tumor, however, often allow more extensive and less well circumscribed extension through the weakened or destroyed sclera.

Malignant melanoma of the choroid and ciliary body is usually detected clinically during the course of a routine examination or discovered when a defect in vision prompts evaluation. Less frequently, the pain and injection of an inflamed or glaucomatous eye lead to discovery of the tumor, and only rarely does a visible mass in the pupil, a growth in the chamber angle, or the development of a pigmented extrabulbar extension cause the patient to seek medical attention.

The accepted treatment for malignant melanoma of the choroid and ciliary body is enucleation. Recently, however, local excision of selected ciliary body melanomas and destruction of small choroidal tumors by diathermy or photocoagulation has been advocated.[5] These more conservative methods are particularly appropriate in special circumstances such as the occurrence of malignant melanoma in a patient's only eye.

Histopathologically, choroidal and ciliary body melanomas are classified according to pigment concentration, argyrophil fiber content, and cell type. Cell type and cell arrangement are the basis for a classification of considerable prognostic significance.[4] With this classification and actuarial survival rates, the following relationship has been established between cell type and 15-year survival: Spindle cell A melanomas (81 per cent survival), spindle cell B and fascicular tumors (73 per cent), mixed cell type and melanomas too necrotic for accurate classification (40 per cent), and epithelioid tumors (28 per cent), (see Figure 2).[6] For a particular patient, however, tumor size and the presence or absence of extrascleral extension are also factors of prognostic significance. When death from tumor occurs, bloodstream metastasis is the usual cause and the liver is the organ most frequently involved.

Malignant Melanoma of the Iris

Malignant melanomas of the iris constitute less than 10 per cent of all uveal tract melanomas. In the first two decades of life, however, 40 per cent of the uveal melanomas occur in the iris[3] and even in adult life the average patient with iris melanoma is one to two decades younger than the patient with choroidal or ciliary body melanoma.[8]

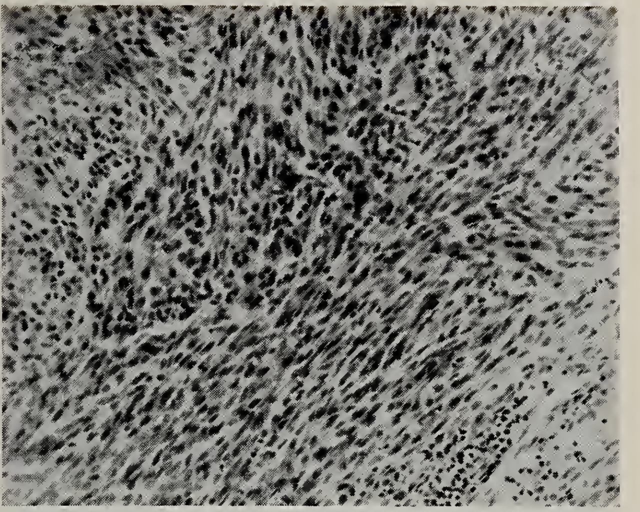

Figure 2.—Typical spindle type cells of a malignant melanoma arranged in bundles. Histologic sections show variable amounts of pigment (× 150).

Malignant melanoma of the iris is usually a solitary, well circumscribed tumor protruding from the anterior iris surface, but it may be diffuse enough to involve even the entire iris. Increasing size and pigmentation of a nodular or diffuse lesion of the iris are the principal signs which are clinically suggestive of malignancy although other features such as the enlargement of blood vessels, restriction of iris mobility, distortion of the pupil and an elevation of intraocular pressure may also be present. The treatment of iris melanoma is excision by iridectomy. Enucleation is warranted only when histopathologic study has confirmed the diagnosis and iridectomy is unlikely to result in total removal of the tumor.

The cytology of iris melanomas includes all the variations seen in malignant melanomas of the ciliary body and choroid. However, the incidence of relatively differentiated spindle cell tumors is greater in the iris than in the posterior uvea. Probably related to this cytology and to the fact that iris tumors are easily seen and usually excised at an early stage, metastasis is rare. More than 90 per cent of patients with iris malignant melanoma are alive five years after treatment.[8]

Medullo-epithelioma

Medullo-epithelioma, a rare tumor occurring almost exclusively in children, usually develops in the anterior uveal tract. Clinical features include the appearance of a grayish white or tan mass, distortion of the iris or pupil, painful glaucoma decreased vision, and strabismus. The process has a complex pathologic structure with elements of malformation and neoplasia comprised apparently from cells along the inner surface of the ciliary body and iris. Enu-

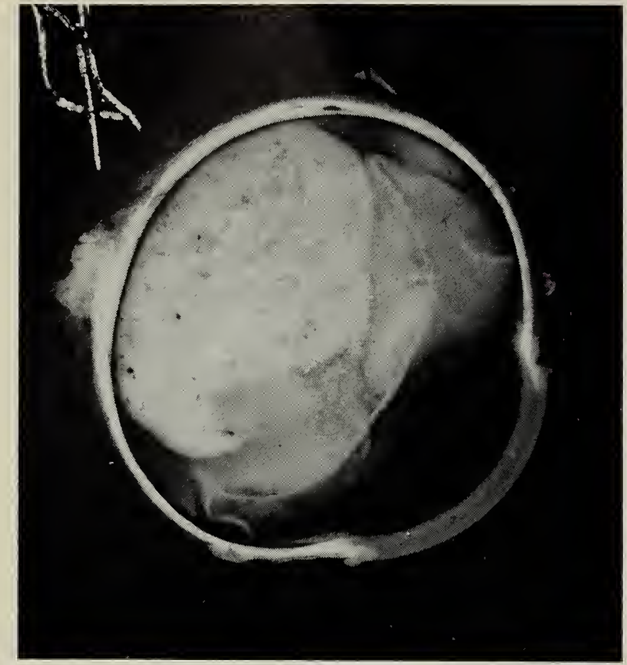

Figure 3.—This example of retinoblastoma has largely grown outward into the subretinal space and has produced complete retinal detachment. White areas represent calcification.

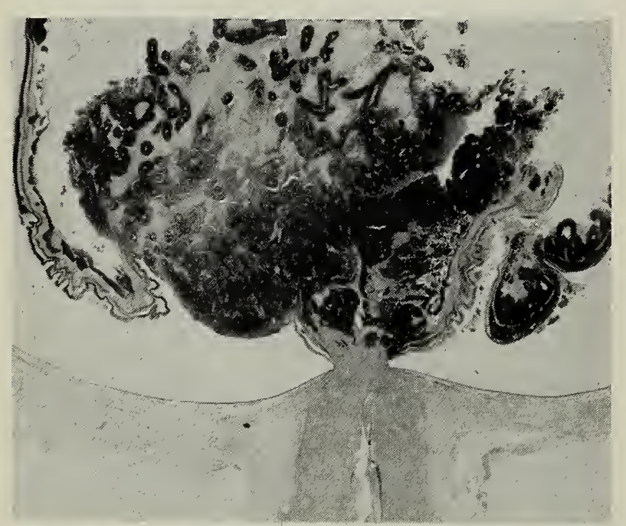

Figure 4.—A retinoblastoma which has extended principally into the vitreous body. Tumor cells are clustered about the blood vessels and large areas of necrosis are present in the center of the tumor (× 7).

cleation is the treatment for this tumor. The prognosis is quite good but fatalities have occurred from direct spread and metastasis.

TUMORS OF THE RETINA

Retinoblastoma

Though less frequent than malignant melanoma of the uvea, retinoblastoma is the most common intraocular tumor of childhood. There is no sex or racial predilection, and most cases develop in families without a history of retinoblastoma. Of practical significance, however, 2 or 3 per cent of the siblings of retinoblastoma patients develop the disease and the offspring of survivors have an overwhelming incidence of retinoblastoma (25 to 90 per cent in reported series).[8]

Retinoblastoma is unilateral in most cases but independent growths in both eyes are reported in at least 25 per cent of the cases. The neoplasm arises from one or more sites in the retina and extends externally to produce retinal detachment or expands internally into the vitreous space. When visible the tumor appears as a cream-colored mass with a somewhat irregular surface, prominent blood vessels and variable foci of chalk-white calcification (Figure 3). As the retinoblastoma enlarges, it extends into the optic nerve, clusters of neoplastic cells appear in the vitreous body, the choroid may be invaded, and penetration of the sclera is known to occur.

Microscopically, retinoblastoma is composed of undifferentiated cells with large hypochromatic nuclei and only small amounts of cytoplasm. In some tumors the cells are arranged in an orderly fashion about a small lumen and form characteristic rosettes. Even more commonly, however, the cells show a predilection for localization around blood vessels and a tendency for degenerated, necrotic, and often calcified areas to separate zones of viable tumor (Figure 4).

Clinically, retinoblastoma may be detected in the first week of life but is usually clinically evident by the age of two years. It is uncommon after the fifth year, and in adult life a distinct rarity. The tumor usually presents as a white mass visible in the pupil as a "cat's eye" reflex. Less commonly it is detected when a strabismus, decreased vision, pain or inflammation prompt medical examination. In a special group of patients (the siblings of retinoblastoma patients and the children of retinoblastoma survivors) the eyes are studied at regular intervals and the diagnosis is generally established early in life.

Enucleation is the treatment for unilateral retinoblastoma. If neoplasm is present in the opposite eye at the time of enucleation or develops subsequently, treatment consists of radiation, chemotherapy and, photocoagulation when appropriate.

Following treatment for either unilateral or bilateral retinoblastoma there is approximately 60 per cent five-year survival. In at least 50 per cent of the patients with bilateral disease who survive, some degree of useful vision can be preserved in one eye.[8] As with other malignant tumors, death from retinoblastoma follows local extension of the disease, blood-borne metastasis or, frequently, a combination of these events.

Other Malignant Tumors of the Retina

Other malignant tumors of the retina are exceedingly rare. Arising in the retinal pigment epithelium, neoplasms with malignant characteristics have been reported, medullo-epitheliomas have already been considered in conjunction with the uveal tract, and glial tumors will be discussed in regard to the optic nerve.

TUMORS OF THE OPTIC NERVE

The optic nerve is a portion of the central nervous system. Thus, the gliomas and meningiomas arising from the optic nerve may be considered malignant in the sense that this term is applied to central nervous system tumors. Optic nerve neoplasms are capable of extension into the cranium but not of metastasis.

Glioma of the Optic Nerve

Optic nerve gliomas have a predilection for occurrence in the first decade of life and in about 10 per cent of the cases are associated with von Recklinghausen's neurofibromatosis.[8] These tumors may arise in any portion of the optic nerve, including the intraocular segment, and generally produce a fusiform expansion of the involved segment. Histologically, oligodendroglial and astroglial cells with neoplastic features are often found in the same specimen so that precise classification of these neoplasms is in doubt. Characteristically, however, the central somewhat myxomatous area of the tumor is separated from the uninvolved portion of the nerve by a transitional zone which resembles reactive gliosis.

Exophthalmos, decreased vision and strabismus are the features which commonly call attention to the abnormal process. Examination usually shows degeneration and edema of the optic disc or actual tumor involving the nervehead. Extension of at least the reactive gliosis beyond the posterior limit of the orbit is indicated by x-ray studies which disclose enlargement of the optic foramen.

Excision of the involved portion of the optic nerve is the best treatment. Removal of the eye is usually not necessary. If excision of the tumor is complete, the prognosis is excellent.

Meningioma of the Optic Nerve

Arising from the sheaths of the optic nerve, this uncommon neoplasm produces exophthalmos and decreased vision related to optic nerve compression. The histologic appearance of orbital meningioma exhibits all the variations encountered in these tumors within the cranium. Treatment is excision of the tumor.

TUMORS OF THE EYELID, CONJUNCTIVA AND CORNEA

Basal Cell Carcinoma

Basal cell carcinoma is the most common malignant tumor of the lid. More than 90 per cent of the malignant epithelial tumors of the lid are of this type.[4] Topographically, basal cell carcinoma is most frequent in the lower lid, less often present in the canthal areas and least likely to occur in the upper lid. Conjunctival involvement by extension is not unusual but basal cell carcinoma probably does not originate on the conjunctiva.

Basal cell carcinoma develops as an indurated sharply demarcated nodule with variable or absent pigmentation, frequently prominent vessels and an irregular surface. Thinning and eventual breakdown of the skin overlying the tumor are not uncommon so that the lesion frequently is seen initially as a slowly expanding painless ulceration with an elevated pearly margin.

Not unlike the basal cells of the epithelium, the tumor cells have deeply staining nuclei and scanty cytoplasm. They may be arranged in well circumscribed masses and cords or ramify widely as thin strands of neoplastic cells. Although locally invasive, basal cell carcinoma does not metastasize.

The treatment of basal cell carcinoma is complete surgical excision or destruction with radiation therapy. The prognosis following either form of treatment is very good.

Squamous Cell Carcinoma

Constituting less than 10 per cent of malignant tumors of the lid, squamous cell carcinoma resembles basal cell tumor in appearance. On the conjunctiva, limbus or cornea, squamous cell epithelioma develops as a flat diffuse process or appears as a localized slightly elevated lesion with a white keratinized surface. These tumors tend to increase in size and are capable of metastasis to regional lymph nodes and more remote sites.

Pleomorphic prickle cells with intracellular keratinization and dyskeratosis are typical of squamous cell carcinoma. In relatively differentiated tumors, keratinized epithelial pearls are encountered but, undifferentiated neoplasms contain sheets of anaplastic cells.

Surgical excision and radiation therapy are the approved methods of treatment for squamous cell carcinoma. Though capable of both direct extension and metastasis, the response of this lesion to therapy is favorable.

Adenocarcinoma

Meibomian glands in the tarsal plate, and specialized sweat and sebaceous appendages adjacent to the cilia are highly developed elements which are virtually unique in the eyelid. Malignant neoplasms may develop from these glands and present as slowly expanding nodules.[11] Excision is the recommended therapy and the outcome is usually favorable.

Malignant Melanoma

Malignant melanoma may arise from a compound or junctional nevus and develop on the lid, the conjunctiva or even the cornea. This tumor appears clinically as an enlarging pigmented nodule. Vessels in association with the melanoma are often inconspicuous on the lid but are generally prominent on the conjunctiva. As the process advances, ulceration is frequent. At any stage metastasis to regional lymph nodes and remote organs, principally the liver, is a likely occurrence.

Histologic examination discloses large cells with sizable nuclei, and prominent nucleoli. Mitotic figures and a secondary inflammatory reaction are often present. The cells are generally loosely arranged and a loss of cohesion is a distinct characteristic of malignant melanoma.

Treatment of malignant melanoma is adequate surgical excision. Chemotherapy is becoming a useful adjunct but its effect on a particular tumor is unpredictable at present. Despite therapy, approximately 75 per cent of patients with malignant melanoma of the head and neck die within five years.[1] Although probably quite similar to data on the head and neck, the exact incidence of tumor death after treatment of eyelid and conjunctival melanoma is not known.

In addition to the usual form of malignant melanoma which develops from a nevus, a process known as precancerous and cancerous melanosis occurs on the conjunctiva, lid or cornea. The process arises in adult life as a unilateral, diffuse, tan, brown or black pigmentation. Associated initially with the histologic appearance of a junctional nevus, this disorder may progress insidiously through stages of anaplasia and eventually result in formation of a frank malignant melanoma. Therapy must be carefully related to the individual tumor, but exenteration of the orbit with removal of the lids may be necessary as a life-saving procedure. When treated adequately, more than half of the patients with cancerous melanosis are alive and free of disease five years after treatment.

LYMPHOMA

Lymphoma of the lids and conjunctiva occurs as an isolated tumor or as part of a generalized lymphoma or leukemia. The disorder may produce a mass in the lids or be visible beneath the conjunctiva as a distinctive salmon colored infiltration. Histologically, the lesion is composed of lymphocytes, reticulum cells or plasma cells. Treatment is with radiation therapy after diagnostic biopsy. If the disease is localized, the prognosis is good but if part of a generalized disorder the latter determines the outcome.

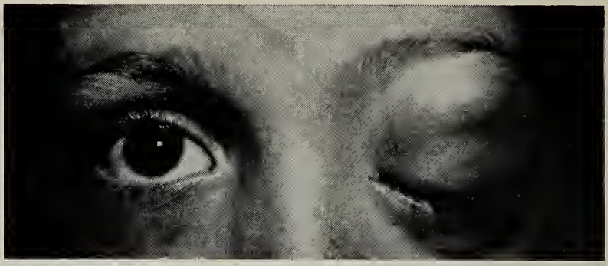

Figure 5.— Rapidly progressive left exophthalmos that developed in an 8-year-old girl. Exploration revealed a pale yellow-red mass which had the cytologic appearance of an embryonal rhabdomyosarcoma.

TUMORS OF THE ORBIT

Malignant tumors of the orbit involve both sexes equally and may be present at any age. Exophthalmos is usually the primary clinical feature although diplopia, decreased vision and pain may also call attention to orbital disease. Many types of malignant orbital tumors are recognized including lesions derived from mesenchymal elements, the lacrimal gland, the reticulo-endothelial system, the optic nerve (previously described) and, rarely, the anaplastic degeneration of hamartomas and choristomas. Certain clinical features of these neoplasms are of aid in differential diagnosis but definitive classification is based on histopathology.

Mesenchymal Tumors

Malignant orbital tumors rarely arise from fibrous, adipose and osseous elements of the orbit but rhabdomyosarcoma is more frequent. This tumor is the most common malignant orbital tumor of childhood.[7] Somewhat more likely to develop in males than in females and usually evident in the first or second decade of life, this lesion is characterized by rapidly developing proptosis related to a soft, yellow-red neoplasm (Figure 5). Embryonal, alveolar and differentiated types of tumor are distinguished histopathologically. Early exenteration of the orbit supplemented possibly with radiation and chemotherapy is the recommended treatment. The prognosis is poor but not hopeless.

Lacrimal Gland Tumors

Generally evident in adult life, epithelial tumors of the lacrimal gland are classified as mixed tumors and carcinomas. These occur in approximately equal incidence. Most mixed tumors are benign but a few are frankly malignant and capable of invasion and metastasis. Carcinomas of the lacrimal gland, usually showing an adenoid cystic configuration, are almost invariably fatal. Careful histopathologic identification of lacrimal gland tumors is essential. Treatment is surgical removal and the prognosis varies with the nature of the neoplasm.

Reticulo-Endothelial System Tumors

As noted with regard to similar tumors of the lids and conjunctiva, reticulo-endothelial tumors of the orbit may be part of a generalized leukemia or sarcoma, or occur as an isolated disturbance. In either case the process may appear as a salmon-colored mass containing extensive accumulations of similar appearing lymphocytes or reticulum cells. Some of these tumors are obviously malignant but it is often difficult to distinguish malignancies from benign reactive hyperplasias of the reticulo-endothelial system. Radiation therapy is the treatment of choice. The prognosis for localized lesions is remarkably good but when disseminated the primary disorder determines the outcome.

TUMORS METASTATIC TO THE EYE AND ORBIT

Tumors originating in adjacent areas such as the paranasal sinuses extend, not infrequently, to the eye and the orbit. These are more properly considered in other treatises dealing with these primary neoplasms. Specific interest, however, is attached to tumors metastatic to the eye and the adnexa. These tissues are involved in metastatic and generalized neoplastic disease more commonly than generally appreciated. In many instances, this involvement is a relatively minor manifestation of terminal disease but in other circumstances metastatic carcinoma, metastatic sarcoma and participation in generalized neoplasia of the reticulo-endothelial system assumes major clinical importance.

Metastatic Carcinoma

Generally in adults, and more common in females than in males, carcinoma metastatic to the eye is most commonly related to malignant tumor of the breast, less often secondary to lung carcinoma and in smaller incidence, a sequel to many other forms of carcinoma. Identified clinically as a relatively flat and often bilateral yellow-brown tumor in the posterior pole of the eye, metastatic carcinoma is detected in the choroid with greatest frequency but other portions of the eye, the adnexa and the orbit may be involved. Treatment consists of radiation and chemotherapy designed to preserve vision and relieve pain. The possibility of an isolated metastatic lesion must be considered, however, and enucleation or other excisional therapy is occasionally warranted.

Metastatic Sarcoma

Neuroblastoma, usually primary in the adrenal medulla of infants and young children, commonly spreads to the orbit. Proptosis of one or both eyes is related to growths of small round or oval neoplastic cells. X-ray therapy is often beneficial as a palliative measure.

Tumors of the Reticulo-Endothelial System

Leukemia and allied disorders including lymphosarcoma are often responsible for hemorrhage and malignant cell infiltration in the eye and adjacent tissues. Histologically, manifestations of these diseases in the eye can be detected in approximately 50 per cent of the cases.[2] Adnexal and orbital involvement is also frequent but the exact incidence is unknown. Treatment of these almost invariably fatal disorders is supportive and consistent with the general management of the primary disease.

UCLA Medical Center, Los Angeles, California 90024 (Straatsma).

REFERENCES

1. Allen, A.: Diseases of the Skin, C. V. Mosby Co., St. Louis, 1954.
2. Allen, R. A., and Straatsma, B. R.: Ocular involvement in leukemia and allied disorders, Arch. Ophth., 66:490-508, 1961.
3. Apt, L.: Uveal melanomas in children and adolescents, Internat. Ophth. Clin., 2:403-410, June 1962.
4. Hogan, M. J., and Zimmerman, L. E.: Ophthalmic Pathology, W. B. Saunders Co., Philadelphia, 1962.
5. Meyer-Schwickerath: Preservation of vision and treatment of tumors by light coagulation, Arch. Ophth., 66:458-466, 1961.
6. Paul, E. V., Parnell, B. L., and Fraker, M.: Prognosis of malignant melanomas of the choroid and ciliary body, Internat. Ophth. Clin., 2:387-402, June 1962.
7. Porterfield, J. F., and Zimmerman, L. E.: Orbital rhabdomyosarcoma: A clinicopathologic study of 55 cases, Virchows Arch. Path. Anat., 335:329-344, 1962.
8. Reese, A. B.: Tumors of the Eye, ed. 2, Harper & Row, Evanston, 1963.
9. Reese, A. B., and Straatsma, B. R.: Precancerous and cancerous melanosis of the conjunctiva, Seminar Report, 3:13-16, Summer 1958.
10. Starr, H. J., and Zimmerman, L. E.: Extrascleral extension and orbital recurrence of malignant melanomas of the choroid and ciliary body, Internat. Ophth. Clin., 2:369-385, June 1962.
11. Straatsma, B. R.: Meibomian gland tumors, Arch. Ophth., 56:71-93, 1956.

CASE REPORTS

Enteric Coated Thyroid as a Cause Of Relapse in Myxedema

HOWARD F. CORBUS, M.D., Fresno

PATIENTS WITH MYXEDEMA frequently have relapses that are hazardous to them and puzzling to clinicians. Usually such relapses result from failure to continue prescribed replacement hormone, but in the cases here reported the cause was impaired absorption of desiccated thyroid due to the use of enteric coated tablets.

REPORTS OF CASES

CASE 1. A 56-year-old woman received 5 millicuries of I^{131} in June, 1960, as treatment for hyperthyroidism. She had typical signs and symptoms of this disease, including a smooth symmetrical goiter, approximately three times the normal size of the gland. The 24-hour thyroidal uptake of I^{131} was 97 per cent, and the protein-bound iodine (PBI) was 12.2 mcg per 100 ml (total serum iodine (TSI) 15.0 mcg per 100 ml). In August, 1960, the patient was judged to be euthyroid. Symptoms had abated, the thyroid gland had returned to normal size, and the PBI was 4.4 mcg per 100 ml (TSI 5.2 mcg/100 ml).

In September, 1960, the patient had cramps in the lower extremities, sleepiness and rapid gain in weight. On examination, she appeared sluggish, the skin was dry and the speech was slow and indistinct. The PBI was 0.3 mcg per 100 ml (TSI 1.7 mcg). A diagnosis of myxedema was made and replacement thyroid treatment was begun. In December, 1960, on taking 150 mg of desiccated thyroid daily, she was asymptomatic and appeared in a euthyroid state.

In February, 1961, she again had increasing fatigue, sleepiness and gain in weight, although she continued to take the same dose of desiccated thyroid. When examined in May, 1961, she again appeared myxedematous and PBI was 1.6 mcg per 100 ml (TSI 3.1 mcg per 100 ml). It was determined that she had obtained enteric coated thyroid tablets in January, 1961, and had started taking them at about that time. Use of these tablets was discontinued and at first triiodothyronine was prescribed, then, later, uncoated tablets of desiccated thyroid. On a daily dose of between 120 and 180 mg of the latter the patient remained euthyroid. Subsequent PBI determinations ranged between 4.4 and 6.0 mcg per 100 ml.

CASE 2. A 47-year-old woman first developed myxedema in 1944, responded to the administration of desiccated thyroid, but had a relapse when she stopped taking the tablets. When seen in 1948, she presented the classical appearance of severe myxedema. Desiccated thyroid was again administered, and on a daily dose of 120 to 180 mg, the signs and symptoms of the disease disappeared.

During a routine examination in June, 1961, she complained of backache, discomfort in the shoulders and elbows, gain in weight and menstrual irregularity. Upon physical examination dryness of the skin, periorbital edema and pronounced delay in the relaxation phase of the deep tendon reflexes were noted. She was believed to be in a hypothyroid state although taking 180 mg of thyroid daily, the maximum dose that she had been able to tolerate in the past. It was learned that she had been taking the prescribed amount but in enteric coated thyroid tablets, but the exact date of this substitution was uncertain. When uncoated tablets of desiccated thyroid were administered instead, she became euthyroid and remained so on a daily dose of 90 mg.

COMMENT

Enteric coatings have been useful in reducing undesirable gastrointestinal symptoms resulting from the ingestion of drugs which cause local irritation of the gastric mucosa.[4] Furthermore, Talkov and coworkers[5] found that the absorption of coated acetylsalicylic acid tablets was comparable with the uncoated although the analgesic effect of the coated preparations was somewhat delayed. However, the solubility of certain enteric coatings has been shown to vary with composition, temperature, the pH of the surrounding medium and age of the tablet.[1] Some coatings have been shown to dissolve in the stomach, while others resist disintegration and the intact pills are passed in the stool.[3,6] The absorp-

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tion of the agent in these instances is obviously unpredictable, and coating of medications which require critical regulation of dosage would appear to be ill advised. Jefferies[2] described an "irregular response" to enteric coated tablets in patients with myxedema, and advised against their use. It is apparent that in the cases described in this report the relapses were due to impaired absorption of coated medication. It was only by chance that the substitution of coated for uncoated tablets became known.

SUMMARY

In two cases of myxedema the patients had relapses that were traced to the substitution of enteric coated thyroid tablets for the uncoated tablets that had been prescribed.

1300 North Fresno Street, Fresno, California 93703.

REFERENCES

1. Hinkel, C. L.: The significance of opaque medications in the gastrointestinal tract, with special reference to enteric coated pills, Am. J. Roent., 65:575-581, 1951.

2. Jefferies, W. McK.: Occult hypothyroidism and metabolic insufficiency, J. Chronic Dis., 14:582-592, 1961.

3. Schwade, L. J.: Enteric coated pills as a cause of fecal impaction, Am. J. Surg., 79:184-185, 1950.

4. Talge, W. A., Winnik, D. E., and Spencer, G. N.: Therapeutic and toxic effects of enteric coated aminometramide, Am. J. Med. Sci., 232:175-180, 1956.

5. Talkov, R. H., Ropes, M. W., and Bauer, W.: The value of enteric coated aspirin, New Eng. J. Med., 242:19-20, 1950.

6. Wolffe, J. B.: What value enteric coating, Am. J. Med., 5:87-89, 1948.

Addison's Disease Complicated by Diabetes Mellitus

MATTHEW T. MOOREHEAD, *M.D.*,
KURT A. DE CRINIS, *M.D.*, DAVID P. JAHSMAN, *M.D.*,
and THOMAS A. DRUMMOND, *M.D.*, Ridgecrest

ADDISON'S DISEASE or primary adrenal cortical insufficiency is a relatively rare condition. The incidence in this country is about ten cases per million of population, with deaths four in a million.[6] Diabetes mellitus occurs in almost one per cent of the population. Apparently diabetes results from a lack of insulin effect, be it too little insulin as reported in dogs with the pancreas removed by von Mering and Minkowski (1889)[6] or too much insulin antagonist as in the diabetes that follows administration of the pituitary growth hormone.[21] Diabetes may be modified profoundly also by certain other hormonal disturbances such as hypophysectomy (Houssay) and adrenalectomy (Long and Lukens).[6] Although insulin may control the blood sugar level and most of the symptoms in diabetic persons, it does not appear to alleviate the vascular and neural complications nor does it correct the underlying metabolic defect. The exact relationship of diabetes and insulin to glucagon and to the alpha and beta cells of the pancreatic islets seems also to need further elucidation.

Only a few cases of Addison's disease complicated by the subsequent onset of diabetes mellitus have been reported in the world's literature. One reviewer found 24 probable instances,[10] another 19,[20] while several others state or imply that only ten or twelve of these cases are sufficiently well documented to be acceptable.[2,13,16] Arnett[1] seems to have been one of the first to report a case of this type (1927). The reverse sequence or diabetes complicated by subsequent Addison's disease has been reported about 60 times,* but less than half of these cases had postmortem confirmation.[14,19] Ogle reported the first of this type in 1866 and only three additional instances were recorded during the ensuing 50 years.[20] The literature on this subject has been reviewed recently by Bevan and co-workers[3] and all published cases analyzed. No further attempt will be made to consider the recorded cases at this time except to mention that several of these might be regarded as not fully established.

REPORT OF A CASE

A 59-year-old white man was admitted to hospital February 4, 1959, with chief complaint of easy fatigability and dyspnea on exertion. The present illness had begun about 13 years before admission, and during that time he had been in hospital nine times with similar complaints. Numerous diagnostic studies were carried out, chiefly for possible "heart trouble," but no specific cardiac diagnosis was established. Numerous electrocardiograms were reportedly within normal limits. There was a gradual loss of 20 to 30 pounds in weight, and fatigability became increasingly severe. No ankle or pedal edema was noticed and little or no pain in the chest, but at times there was pronounced dyspnea on exertion, substantial "pressure" and difficulty in walking more than one or two blocks. Approximately three years before the present admission, the patient was seen during an episode of unexplained shock with very low blood pressure. Cortisone therapy was started at that time and dramatic improvement promptly ensued. After pertinent laboratory studies, a diagnosis of Addison's disease was made and cortisone therapy was continued regularly thereafter. No sign of diabetes was present at that time.

About two years later a diagnosis of mild diabetes mellitus was also made, after laboratory studies. This condition was at first controlled fairly well by

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Submitted August 1, 1963.

*See References Nos. 3-5, 7-9, 11, 12, 14, 15, 17-19, 21.

dietary therapy, but it gradually became worse, requiring more and more insulin despite occasional hypoglycemic reactions.

The past history was not otherwise contributory and the family history added no information of value. About a week before the present admission, an upper respiratory tract infection developed. This seemed to aggravate all symptoms and led to admission of the patient to hospital.

Upon physical examination the patient was observed to be short, slightly built, and in acute distress because of dyspnea and weakness. The blood pressure was 90/60 mm of mercury, the temperature, 98.2° F, the pulse rate 104 and respirations 14 per minute. Many orackling and crepital rales were audible at both bases. The cardiac sounds were not remarkable and there was no murmur and no evidence of cardiac enlargement. The abdomen was not tender or distended and no masses were palpable although the liver appeared to be slightly enlarged. The testicles were small but the development of the external genitalia and the hair distribution were well within normal limits. A few small "shotty" lymph nodes were palpable in the inguinal regions bilaterally. The skin was rather dark in color throughout but not deeply pigmented. The results of neurological examination were within normal limits.

Roentgenograms showed evidence of slight pulmonic emphysema, minimal osteophytic lipping of the spine, moderate generalized osteoporosis and possible maxillary sinusitis. A plain film of the abdomen showed abnormal calcification. Except for low voltage, repeated electrocardiograms were within normal limits. No definite evidence of myocardial infarction was detected at any time. An electroencephalogram was interpreted as normal.

The hemoglobin concentration in the peripheral blood was 13.4 gm per 100 ml, and the hematocrit 39 per cent. Leukocytes numbered 11,700 cells per cu mm—45 per cent neutrophils, 53 per cent lymphocytes and 2 per cent eosinophils. There was a 3 plus reaction for sugar, but otherwise routine urinalysis was within normal limits. The basal metabolic rate at the time of admission was minus 16 per cent. Uptake of radioactive iodine-131 was 16 per cent. Protein-bound serum iodine content was 4.3 micrograms per 100 ml, and serum cholesterol was 282 mg per 100 ml. Following administration of thyroid stimulating hormone (TSH), the radioactive iodine uptake increased to 38 per cent and the protein-bound serum iodine to 9.4 micrograms per 100 ml. Results of inorganic phosphorus, alkaline phosphatase and thymol turbidity studies were within normal limits. The blood urea nitrogen ranged from 18 to 30 mg per 100 ml. Serum albumin was 4.8 gm and serum globulin 3.8 gm per 100 ml. The fasting blood glucose content was 250 mg per 100 ml (Folin-Wu technique) and after ingestion of 100 gm of glucose it rose in 30 minutes to 400 mg per 100 ml, and after an hour to 480 mg per 100 ml. At hourly intervals thereafter it was 450, 475, 370 and 292 mg per 100 ml. The total twenty-four hour excretion of urinary sugar varied from 30 to 60 grams per day before treatment, but this fell virtually to zero during therapy. Serologic tests for syphilis were non-reactive. The plasma steroids, both before and after stimulation with adrenal corticotropic hormone (ACTH) were found to be essentially zero. A 24-hour urine examination showed a value of 4.0 mg for the 17 ketosteroids and 1.5 mg for the 17 hydroxycorticoids, with insignificant changes thereafter following stimulation by ACTH.

Cultures of material from the throat grew only normal flora. Stools were negative for occult blood. Repeated examinations of the sputum and gastric washings for acid-fast bacilli were negative both by smear and culture. Results of histoplasmin and coccidioidin agglutination tests were negative. On one occasion, the serum sodium was found to be 120 mEq per liter, the potassium 5.2 and chlorides 87.5, mEq per liter; but on other occasions the electrolyte pattern was less disturbed.

During the time the patient was in hospital the blood pressure varied from 98/80 to 80/60 mm of mercury. Diabetes was treated chiefly by dietary regulation and oral administration of hypoglycemic agents. Despite this there were intermittent episodes of postprandial hyperglycemia. Dexamethasone (Decadron®) was given regularly from the beginning, one mg three times a day; and when it was discontinued experimentally the condition of the patient deteriorated rapidly: An upper respiratory tract infection with evidence of pneumonitis developed. The blood pressure fell to 80/60 mm of mercury, the temperature rose to 105° F and the pulse rate increased to 130 per minute.

A film of the chest at this time showed slight pleural effusion and patchy pneumonitis. A diagnosis of acute adrenal cortical insufficiency with possible congestive heart failure was made. The patient was then given penicillin, streptomycin, hydrocortisone (100 mg daily) and digoxin, whereupon his condition improved rapidly and satisfactorily but not completely. Later, a tuberculin skin-sensitization test (purified protein derivative No. 1) was found strongly positive. The sputum and gastric washings were again found negative for tubercle bacilli. The patient's general condition improved still further and after several days he was discharged, at his own request. He was urged to take both hydrocortisone and metahexamide regularly each day. However, within 48 hours he was returned to the hospital in alarming condition with extremely low blood pressure, great restlessness and severe dyspnea. The temperature was 98.0° F, the pulse rate 140 and the respiration 18 per minute. In spite of prompt treatment, including intravenous administration of hydrocortisone (Solu-cortef®) and Ringer's solution, his condition became rapidly worse and he died within a few hours. At autopsy the following conditions were noted:

1. Severe bilateral chronic granulomatous and caseous tuberculosis of the adrenal glands (Addison's disease).
2. Chronic interstitial pancreatic fibrosis with partial islet cell atrophy and hyalinization (clinical diabetes mellitus).
3. Old healed myocardial infarction (fibrosis).
4. Generalized atherosclerosis and arteriosclerosis.
5. Moderate bilateral pleural effusion.
6. Slight pericardial effusion.
7. Slight fatty metamorphosis of the liver.
8. Pronounced brownish (melanin) pigmentation of the skin.

The brain showed no gross or histologic abnormality of note. The pituitary and thyroid glands were essentially normal. Bilateral coronary atherosclerosis and stenosis with widespread old healed myocardial infarction were observed. Just why this extensive lesion had not caused electrocardiographic abnormalities is not clear. As shown in Figure 1, the adrenal glands were destroyed by an old, chronic, caseous and granulomatous process that had the typical gross and histological features of active tuberculosis. Numerous tubercles and a few acid-fast bacilli having the morphologic features of the tubercle bacillus (mycobacterium tuberculosis) were present in the adrenal cortical tissue.

COMMENT

The incidence of Addison's disease combined with diabetes appears to be increasing considerably[6] despite decreasing tuberculosis, and this phenomenon may involve, to some extent, the increasing incidence of diabetes[15] and the increased susceptibility of diabetic persons to tuberculosis; but the amazing coincidental increase in the use of adrenocorticosteroids, with their tendency to cause adrenal cortical atrophy, seems a more likely causative factor. Tuberculosis of the adrenal glands was formerly regarded as the cause of Addison's disease in almost 90 per cent of cases, but at present the incidence of this cause seems nearer 50 per cent[6,15] and in the combined disease (Addison's with diabetes) possibly as low as 30 per cent.[8,14]

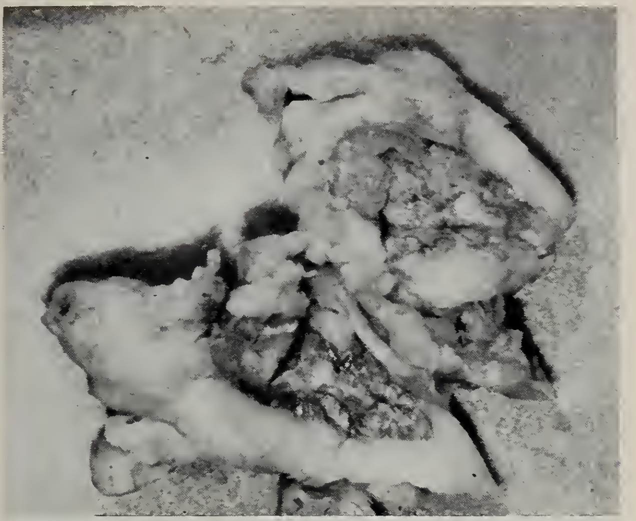

Figure 1.—Adrenal gland, showing bilateral caseous necrosis of cortex and medulla (dark central areas surrounded by zones of light-colored fat).

This sharp drop in the relative status of adrenal tuberculosis may be a result, in part, of the decreasing incidence of tuberculosis in general, but the increasing use of corticosteroids seems a major factor also in this change. Addison's disease, whether combined with diabetes or not, may show, on rare occasion, various other cortical lesions such as necrosis, fibrosis, hemorrhage, neoplasia, hemochromatosis, amyloidosis, and inflammation or granulomatosis, associated with diverse etiological agents such as viruses, bacteria, mycoses, drugs, hormones, tumors, vascular lesions, pituitary disease, autoimmune reactions and idiopathic atrophy.[2,6,15,17] The relative importance of each of these agents is difficult to assess at present and probably is changing rapidly from time to time, particularly with the increasing use of corticosteroids and their derivatives. These potent drugs seem to cause adrenal cortical failure, chiefly by suppression of the pituitary hormone, corticotropin (ACTH), rather than by any direct action on the cortex itself or by lessened general resistance to tuberculosis, although in the case herein reported the latter factor may have been significant.

SUMMARY

A case of Addison's disease complicated by subsequent diabetes mellitus is reported. Only about 12 cases of this type and sequence have been well documented. This combination of diseases appears to be increasing considerably in recent years, despite a decline in adrenal tuberculosis. These opposed changes probably reflect an increase in the usage of corticosteroids with their tendency to induce adrenal cortical atrophy.

Drummond Medical Group, 1111 N. China Lake Boulevard, Ridgecrest, California (Moorehead).

REFERENCES

1. Arnett, J. H.: Arch. Int. Med., 39:698, 1927.
2. Bartels, E. C., Fields, M. L., and Murphy, R.: Lahey Clin. Bull., 10:234, April-June, 1958.
3. Bevan, D. W., Nelson, D. H., Renold, A. E., and Thorn, G. W.: Diabetes mellitus and Addison's disease: A report on eight patients and a review of 55 cases in the literature, New Eng. J. Med., 261:443, August, 1959.
4. Breslow, L., Lashof, J., and Klein, C.: Diabetes mellitus, hyperthyroidism and Addison's disease in one patient, Ann. Int. Med., 38:338-342, 1953.
5. Bruno, M. S., Ober, W. B., Kupperman, H. S., and Epstein, J. A.: Coexistent Addison's disease and thyrotoxicosis, Arch. Int Med., 110:155-161, August, 1962.
6. Cecil, R. L., and Loeb, R. F.: A Textbook of Medicine, 10th ed., Vol. 1, W. B. Saunders Company, Philadelphia, Pa., 1959, pp. 609-636, 727-744.
7. Comings, D. W., Turbow, B. A., Callahan, D. H., and Waldstein, S. S., Obstructing aspergillus cast of the renal pelvis: Report of a case in a patient having diabetes mellitus and Addison's disease, Arch. Int. Med., 110-255-261, August, 1962.
8. Coulshed, N., and Jones, E. Wyn: Report of diabetes mellitus and Addison's disease, (two cases), Post-Grad. M. J. (Liverpool), Vol. 33, No. 376, p. 60, February, 1957.
9. Crampton, J. H., Scudder, S. G., and Davis, C. D.: Carbohydrate metabolism in combined diabetes mellitus and Addison's disease as illustrated by a case, J. Clin. Endocrinol. 9:245-254, 1949.
10. Davies, R. R.: Coexistence of diabetes mellitus and Addison's disease, J. Ind. M.A., 54:1483-1488, Oct. 1961.
11. Etzwiler, D. D.: Effect of glucagon on hypoglycemia of juvenile diabetics, J.A.M.A., 183:795, March 2, 1963.
12. Gittler, R. D., Fajans, S. S., and Conn, J. W.: Coexistence of Addison's disease in diabetes mellitus: Report of three cases with discussion of metabolism, J. Clin. Endocrinol., 19:797-804, 1959.
13. Kavin, H., and Reid, F. P.: Diabetes mellitus with Addison's disease, South African M. J., 33:293, April 4, 1959.
14. Leahy, J.: Addison's disease and diabetes mellitus, J. Irish M. A., Vol. XLV, No. 270, p. 178, Dec. 1959.
15. McCombs, R. P.: Internal Medicine, pp. 209-211, The Yearbook Publishers, Inc., Chicago, 1958.
16. McNicol, G. P. and McNicol, M. W.: Addison's disease complicated by diabetes mellitus, Scottish Med. J., 5:30-36, Jan. 1960.
17. Mead, R. K.: Autoimmune Addison's disease: Report of a possible case, New Eng. J. Med., 266:583, March 22, 1962.
18. Rowntree, L. G., and Snell, A. M.: A clinical study of Addison's disease: Two cases of diabetes mellitus, then thyrotoxicosis, then Addison's disease, Arch. Int. Med., 110:93-95, 1931.
19. Webster, B. H., and Hurt, J. E.: Concomitance of diabetes mellitus and Addison's disease, Diabetes, The Journal of the American Diabetes Association, Vol. 6, No. 5, Sept.-Oct., 1957.
20. Wehrmacher, W. H.: Addison's disease with diabetes mellitus, Arch. Int. Med., 108:182-187, July 1961.
21. Young, F. G.: Experimental diabetes, Lancet, 2:372, 1937.

An Unusual Thymic Tumor with Possible Immunologic Correlation

A. H. PONTIFEX, *M.D.*, San Jose

IN THE CASE here reported a thymic tumor was unusual in that in addition to epithelial cells the second major component consisted of plasma cells rather than of lymphocytes. No report of a similar tumor was found in a search of the literature. Besides the rarity, the possibility that it may throw new light on the relationship of the thymus to immunologic phenomena makes the case worthy of report.

REPORT OF A CASE

The patient, a 60-year-old woman, complained of severe acute left anterior chest pain of four to five days' duration. An x-ray film showed a large mass in the left anterior mediastinum. No evidence of metastasis was observed in x-ray studies of the bones. The patient had had radical mastectomy and radiotherapy for a carcinoma of the left breast 15 years previously. Her mother had died at age 50 of carcinoma of the breast, her father at age 75 of carcinoma of the prostate and a brother at age 45 of a brain tumor. Upon physical examination the only abnormality noted was mild hypertension. Myasthenia gravis was not present.

At thoracotomy a 10 x 7 x 5 cm lobulated, encapsulated firm tumor mass weighing 170 gm was removed. This mass did not involve the mammary chain of nodes or vessels and was not densely adherent to or invasive of any of the surrounding structures. On cross-section the tumor was firm, tan and homogenous, with a lobulated appearance.

Microscopically, it was seen to consist largely of the sheets of epithelial cells typical of many thymomas. Lymphocytes, however, were infrequent: the other major component consisted of plasma cells, many demonstrating Russell body formation. Thymic fragments outside the tumor revealed some plasma cell infiltration and also lymph follicle formation, and adjacent lymph nodes also contained increased numbers of plasma cells.

Hemoglobin content was 10.7 gm per 100 ml and erythrocytes numbered 3,300,000 per cu mm. Morphologically the red cells were within normal limits. On one occasion reticulocytes numbered only 0.11 per cent of the total but later rose to 2.4 per cent. The erythrocyte sedimentation rate was 50 mm in one hour. No Bence-Jones protein was present in the urine. Results of the direct and indirect Coombs tests were negative, as was the latex test. Serum electrophoresis demonstrated an increase of the gamma globulin fraction to 26.6 per cent (normal 7 to 16 per cent). Ultracentrifuge analysis of the serum proteins was also done and revealed the S7 class (gamma globulin) to be 3.0 gm per 100 ml (normal

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Submitted August 19, 1963.

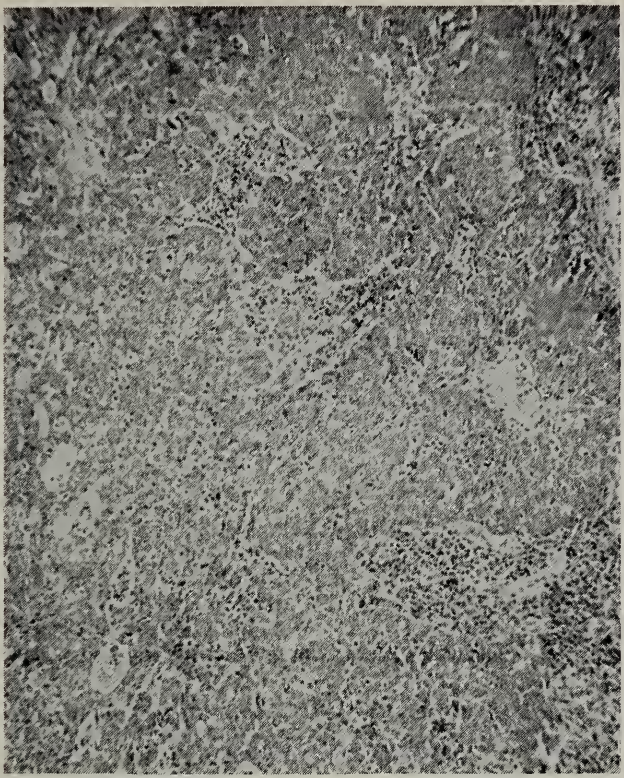

Figure 1.—Thymic tumor composed of large sheets of epithelial cells. The small round cells proved to be plasma cells rather than the customary lymphocytes (× 100).

1.34, standard deviation 0.34). The remainder of the serum proteins were within normal limits. Bone marrow aspiration revealed no significant abnormalities and there were neither unusual numbers nor abnormal forms of plasma cells present.

DISCUSSION

The findings in the present case — a thymic tumor having unusual histologic features in a patient with an increase in the gamma globulin component of serum proteins and an accelerated erythrocyte sedimentation rate — can be correlated hypothetically with the probable immunologic role of the thymus.

Miller[4,5] removed the thymus from mice at birth and then noted decreased lymphocytes in the peripheral blood, lack of germinal centers in nodes, increased incidence of infections and tolerance to skin homografts. He suggested that the embryonic thymus produces the originators of the immunologically competent cells.

Both Miller[4,5] and Burnet[1] said that in the normal mammal, even with intense antigenic stimulation, few if any plasma cells are present in the thymus. Burnet postulated two types of lymphocytic response: If lymphocytes come into contact with their corresponding antigens outside the thymus,

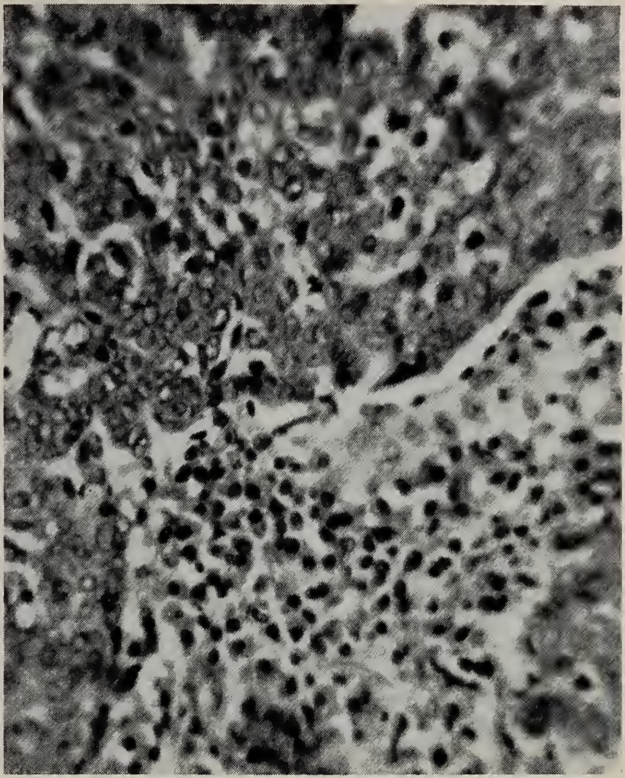

Figure 2.—Thymic tumor. The epithelial cells have a uniform morphology and are typical of those found in the most common type of thymomas. The other component consists of characteristic plasma cells (× 430).

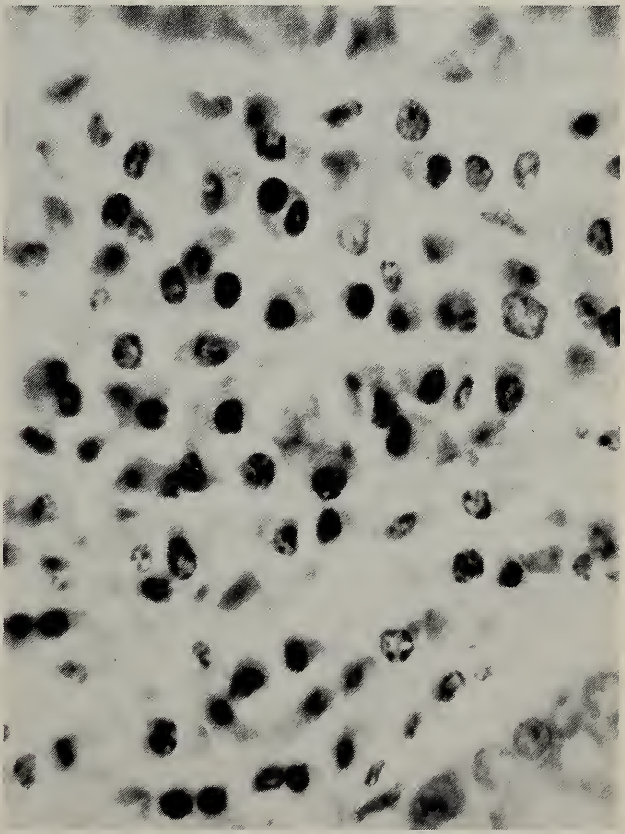

Figure 3.—Thymic tumor. The plasma cells are mature. Some binucleate forms are present and Russell body formation is present in one of the cells in the center of the field (× 970).

they will be stimulated to proliferate; if the contact is within the thymus, that clone will be suppressed. Marshall and White[7] induced germinal centers and plasma cell formation in the thymus of guinea pigs by direct injection of antigen. They said that the thymus of the guinea pig and rat possesses a barrier against the entry of antigen from the blood and that this barrier may be broken down by local trauma. Viewed in either way, there should be no active antibody producing cells (plasma cells) within the thymus.

Burnet described a strain of mouse (NZB-BL) in which a spontaneous autoimmune hemolytic anemia developed. In these mice before the onset of the anemia, the thymus contained germinal centers, incomplete lymph follicles and plasma cells, suggesting the possibility that autoimmune disease has its origin in the thymus. In the study of the thymus in myasthenia gravis, Castleman and Norris[2] noted that in 75 per cent of cases there were germinal centers within the thymus that were not normally present there. Burnet further suggested that thymic biopsy early in the course of disseminated lupus erythematosus might reveal features similar to those found in NZB-BL mice.

In the present case a possible analogous situation to that of the NZB-BL mice existed in a human patient. Although at present in this patient there was no evidence of overt autoimmune disease, there is a definite increase in the serum gamma globulin. While there is no proven connection between the plasma cell-containing tumor and the increased level of serum gamma globulin, the coincidence is suggestive. In spite of excision of the tumor the patient continued to have an elevated serum gamma globulin. Approximately ten months postoperatively total proteins were 8.1 gm per 100 ml with 25 per cent of the total being gamma globulin (normal 7 to 16 per cent).

SUMMARY

A case of thymic tumor containing large numbers of plasma cells with active Russell body formation in a patient with increased serum gamma globulin is presented. The possible relationship of this case to the immunologic role of the thymus is discussed.

O'Connor Hospital Laboratory, Forest and Disalvo, San Jose, California 95128.

1. Burnet, F. M.: Role of the thymus and related organs in immunity, Brit. Med. J., 807-811, 1962.

2. Castleman, B., and Norris, E. H.: Pathology of thymus in myasthenia gravis; study of 35 cases, Medicine, 28:27-58, 1949.

3. Marshall, A. H. E., and White, R. G.: The immunological reactivity of the thymus, Brit. J. Exper. Path., 42:379-385, 1961.

4. Miller, J. F.: Immunological role of the thymus, Lancet, 7205:748, 1961.

5. Miller, J. F.: Immunity and the thymus, Lancet, 7271: 43-45, 1963.

Massive Rectal Bleeding From A Cholecystocolic Fistula

JOEL ZISK, M.D., GARY N. FURMAN, M.D.,
and LEON MORGENSTERN, M.D., Los Angeles

ALTHOUGH MASSIVE RECTAL BLEEDING is a relatively common occurrence, such bleeding secondary to a cholecystocolic fistula is decidedly rare. Review of the English medical literature reveals only one previous report of massive rectal bleeding from a cholecystocolic fistula.[1] The following report is of the second such case.

REPORT OF A CASE

A 72-year-old woman was admitted to hospital with the chief complaint of painless, bright red rectal bleeding of four hours' duration. She had had two previous minor episodes within the three weeks preceding admission, and proctosigmoidoscopy and barium enema studies had been done. They had revealed no abnormality.

Significant in the past history was a cholecystostomy performed in 1922. Although relatively asymptomatic for the next 37 years, the patient had begun to experience increasing upper abdominal distress after eating fried and fatty foods. Double intensification cholecystography with Telepaque® had failed to visualize the gallbladder. There was no history of jaundice, acholic stools, dark urine, chills or fever.

At physical examination jaundice was noted and the patient's lower garments and thighs were stained with bright red blood. Blood pressure was 96/44 mm of mercury and the pulse rate 108. No masses were felt in the abdomen and no tenderness was elicited. Proctosigmoidoscopy showed fresh and old blood in the rectum and lower sigmoid, but no bleeding point could be identified.

The initial hemoglobin content was 9.8 gm per 100 ml and the hematocrit was 29 per cent. Leukocytes numbered 18,700 per cu mm and the differential showed a shift to the left. The platelet count was within normal limits, A series of liver function tests were reported as follows: Serum bilirubin 5.8 mg per 100 ml (4.3 mg per cent direct); alkaline phosphatase, 3.9 Bessey Lowry units. Serum glutamic oxaloacetic transaminase 100 units; prothrombin time, 46 per cent; serum protein, 6.06 gm per 100 ml with an albumin-globulin ratio of 3.4:2.6.

The patient required a total of two units of whole blood and 500 ml of 5 per cent albumin for blood

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From the Department of Surgery, Cedars of Lebanon Hospital, Los Angeles.

Submitted October 4, 1963.

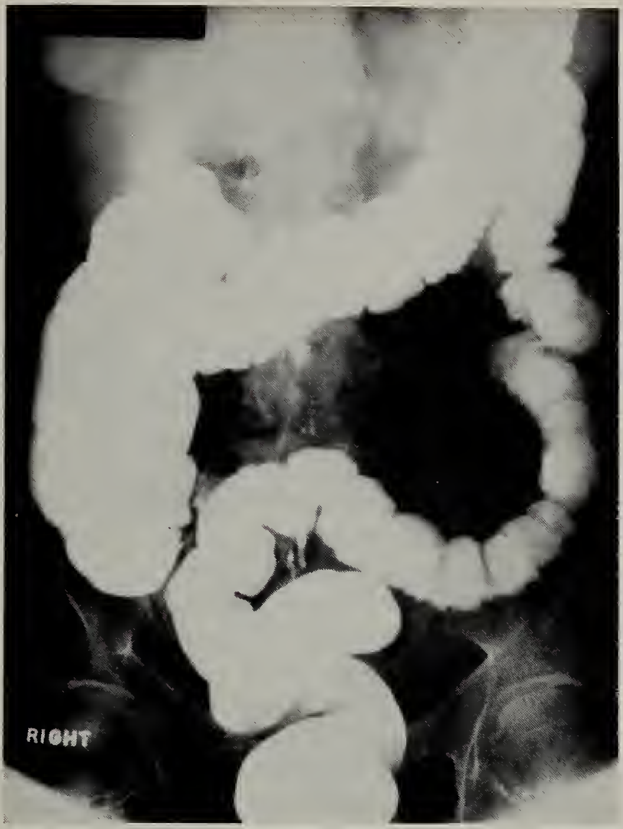

Figure 1.—Barium enema showing contrast material between the hepatic flexure to gallbladder.

volume replacement. By the first postadmission day there was no evidence of further bleeding.

Shortly after admission a barium enema demonstrated a fistula between the right transverse colon and the gallbladder (Figure 1) with air in the biliary tree (Figure 2). There was no other colonic lesion.

At operation ten days after admission the cholecystocolic fistula was exposed, the tissue surrounding the colonic opening was excised and the defect was closed transversely. Cholecystectomy was then performed. No stones were palpable in the common duct, nor was the duct dilated. It was not explored.

Microscopically the gallbladder wall near the fistula showed extensive scarring and progressive inflammation varying from phlegmonous to granulomatous. A few vegetable fibers were present in the wall as evidence of the enteric fistula.

The colon showed a scarred fistula with areas of active inflammation; deep in the wall were a few foreign body granulomas.

Aside from wound infection the postoperative course was relatively uneventful. The patient remained well thereafter with no further episodes of abdominal distress, jaundice or rectal bleeding.

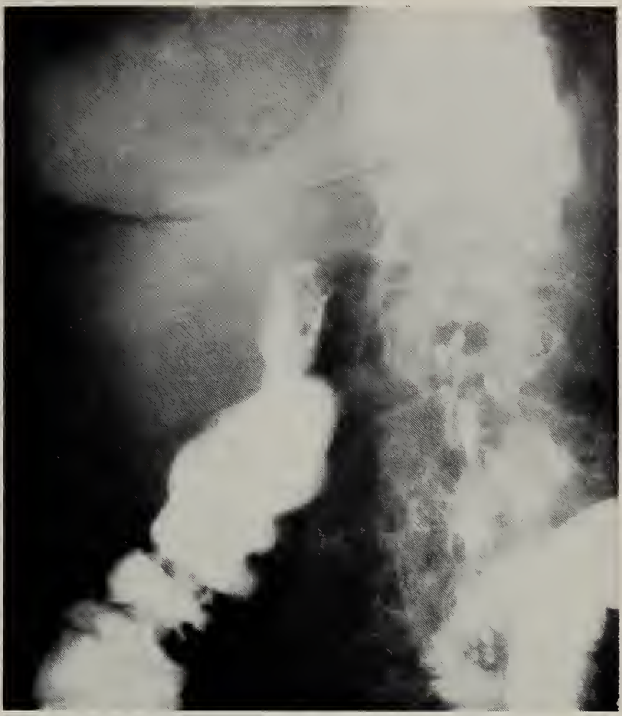

Figure 2.—Film demonstrating air in the biliary tract.

DISCUSSION

As in the only other reported case of this kind, the bleeding point could not be identified at the time of operation or in the specimen, but in the absence of any other demonstrable site it may be assumed the bleeding was from the fistula.

The bleeding presumably occurred during the process of active fistulization. What caused the jaundice remains unclarified, but it probably can be ascribed to cholangiitis which accompanied the process of fistulization.

SUMMARY

The second reported case of a cholecystocolic fistula presenting with massive rectal bleeding is described.

Department of Surgery, Cedars of Lebanon Hospital, 4833 Fountain Avenue, Los Angeles, California 90029 (Zisk).

REFERENCE

1. Chaffee, J. S.: Cholecystocolic fistula with large bowel hemorrhage, Ann. Surg., 152:901, 1960.

Bezoar of the Transverse Colon

IRA H. WILSON, *M.D.*, V. J. WYBORNEY, *M.D.*, and
C. M. HILLENBRAND, *M.D.*, San Diego

SINCE THE BEGINNING of this century several hundred cases of bezoars of the stomach and small bowel have been reported, but none of a bezoar of the colon that was not associated with a tumor or obstructing foreign body, as it was in the instance here reported. A feature of the case is that the ball may well have been formed or aggravated by ingestion of a carboxymethylcellulose product as a laxative.

REPORT OF A CASE

A man 54 years of age was admitted to Mercy Hospital, San Diego, July 15, 1963, with history of constipation, abdominal pain and distention for 11 days. For four days during that period he had been in another hospital where emesis had occurred once or twice and he had had persistent abdominal pain with some tenderness of the left lower quadrant, but no distention, no fever and no leukocytosis. During the course of diagnostic studies there he left the hospital against advice.

For some years the patient had been taking daily doses of a common carboxymethylcellulose product to relieve constipation, and at onset of the symptoms described above he had increased the dose. Pain and tenderness had increased. Constipation continued and was not relieved by enemas. The night before admission to Mercy Hospital he had taken two and a half ounces of castor oil and had then passed some flatus but no stool.

The patient had had trouble through the years with diverticulosis of the descending colon, and at the time of examination in the previous hospital this had been suspected to be the source of the symptoms. He had also had chronic pulmonary fibrosis and emphysema, severe nervous instability, tremulousness, palpitation, addiction to tobacco and gradual nervous deterioration since an accident some years before. He had had subtotal thyroidectomy.

Noted on physical examination were limitation of respiratory excursion, increased antero-posterior diameter of the chest, moderate wheezing and the symptoms and signs of severe distress in general. The abdomen was rounded, tight, silent, tympanitic over the right, dull over the left, with no indication of collection of fluid. The rectum was empty.

Serum contents of various chemical factors (stated in milliequivalents per liter) were: Chlorides, 97 and 100; sodium, 133; potassium, 4.9 and 4.3; calcium, 8.9; and CO_2, 31. Blood urea nitrogen was 7.3 mg per 100 ml and hemoglobin 11.5 gm per 100 ml. Leukocytes numbered 9,550 per cu mm — 68 per cent polymorphonuclear cells, 29 per cent lymphocytes, 2 per cent eosinophils and 1 per cent basophils. Results of routine urinalysis were within normal limits.

Radiographic examination of the chest showed pulmonary fibrosis and a bleb at the right apex. Upright and recumbent abdominal radiographs showed pronounced gas distention of the cecum, ascending colon and proximal transverse colon. Much of the transverse colon appeared to be filled with fecal material to the splenic flexure. There was a small amount of gas in the descending colon and some gas in the small bowel. These conditions were interpreted as suggesting an obstructive lesion in the left side of the colon, possibly in the area of the splenic flexure.

Laparotomy was carried out. An excess of fluid was noted and there was dilatation and some redness of the small bowel. The proximal colon was greatly distended and there was a kink at the splenic flexure. A mass resembling feces but with a more "rubbery" feeling was felt in the transverse colon. Upon colotomy a green, gelatinous, plastic mass was found which adhered firmly to the mucosa and tended to break up on handling. When it was removed, gas passed through the colon and the rectal tube in situ.

The pathologist reported a "lobulated, brownish-green mass of vegetable fiber and fecal material weighing 286 grams and measuring 15 x 10 x 7 cm. Diagnosis: phytobezoar."

Unfortunately the specimen was discarded without study of the exact nature of the material but the history and the gross character of the bezoar suggests that carboxymethylcellulose may have been, if not the ultimate cause, at least an aggravant as a matrix for the other coarser material.

The patient recovered uneventfully and when last observed two months after operation, was free of obstructive symptoms.

SUMMARY

An apparently unique case of bezoar in the transverse colon, probably at least aggravated by carboxymethylcellulose ingestion, is reported.

6330 Alvarado Road, San Diego, California 92120 (Wilson).

Submitted October 3, 1963.

California
MEDICINE

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EDITORIAL

Oral Poliomyelitis Vaccine

COMMUNITY PROGRAMS of immunization against poliomyelitis with Sabin strains of live virus vaccine were concluded throughout most of California about a year ago. Almost ten million persons — over 55 per cent of the population of the State — received each of the three virus strains (slightly fewer for Type III). In areas in which the community program was well organized, participation was 75 to 85 per cent.

Successful immunization not only protects the recipient but also reduces opportunities for exposure of those who are not themselves immune. Experience indicates that when effective immunity against an infectious disease surpasses 65 per cent of the population the chances of epidemics are reduced almost to the vanishing point. This is the reason for having urged vaccination for all, in order "to reduce the carrier state." As expected, there has been a reduction in poliomyelitis incidence in California. No case of poliomyelitis has been reported in California since January 1, 1964, and only 14 in 1963.

The method of immunization with live virus consists of consecutive feedings of each of the three strains of vaccine at intervals of four weeks or more. The purpose of this is to cause *infection* of the intestinal tract by attenuated virus strains which do not cause any signs of illness, do not affect the nervous system but do provoke local tissue immunity of the bowel and stimulate levels of serum antibody which are protective against virulent (paralytic) strains. Immunity to all three strains is effective only if each successively infects the bowel, which occurs in about 95 per cent of the persons vaccinated. Immunity is known to be prolonged and may be lifelong.

Several things may occasionally interfere with the successful infection of the bowel with the vaccine. One strain of the attenuated virus may interfere with the growth of another — they are given separately for this reason. Numerous enteric viruses, especially those most prevalent in the summertime, may interfere in a similar manner. There may be other imponderable factors which may interfere. Such human error as improper dosage on the sugar cube or lapse in refrigeration of the vaccine could cause one of the doses administered to be ineffective in some instances.

A very few of the persons who took the vaccine may thus have escaped immunization against one of the three strains; protection against all three is essential. Experience has shown that in 90 to 95 per cent of those who were given the vaccine demonstrable immune substances developed. Although it is not practicable to test every patient for immunity, such sampling as has been done in Northern California indicates a high level of successful infection and presumably of immunization.

The patient who has taken all three doses of vaccine is *probably* immune — 95 per cent plus or minus. Even if he belongs to the 5 per cent not successfully infected with one or another of the strains, but lives in a well vaccinated community, he is assured of almost complete protection because of lessened exposure. However, "95 per cent immunity", does not mean that the occasional one in whom the vaccination has failed is 95 per cent immune. Those who make up this 5 per cent of the vaccinated population are probably completely susceptible rather than partially protected.

Elevated antibody levels, when measured, are a good indication of immunity although actual resistance to disease may outlast demonstrable antibodies. Increased serum immunity has been demonstrated in a few instances for more than 11 years after vaccination and in great numbers for three to five years. Live virus vaccine is expected to give prolonged and perhaps lifetime immunity although comparison with other methods of vaccination would suggest that lapses of immunity might be expected in a certain proportion of those vaccinated. Smallpox vaccination, also afforded by live virus vaccine, is known to wane and reimmunization is advisable periodically; the response to revaccination often affords obvious proof that it was, indeed, necessary.

What is the responsibility of the future now that the mass poliomyelitis immunization programs are completed? It is difficult to envision any additional community effort in this regard nor is there apparent need for this. Physicians, health departments and well baby clinics must accept this responsibility for continued protection.

The first necessity for future immunization is the vaccination of newcomers to the community, whether these are newborns or in-migrants. For the immunization of newborn infants, the use of live virus vaccine is certainly the method of choice. During the first few days of life, vaccination may be ineffective because of the presence of immune substances in the intestine from swallowed amniotic fluid or from the breast milk. There is little reason to insist on immunization in infancy at the earliest possible moment; poliomyelitis is almost nonexistent in infants under six months of age and the important thing is to establish a permanent and effective immunity from the age of six months on. About this time infants should receive oral vaccine in the order of I, III, and II at intervals of four to six weeks or more, although the exact order makes little difference and the interval between administrations may be longer.

There are very good reasons for supplementing immunization in infancy with a booster dose of triple vaccine after six to twelve months to insure solid protection.

New arrivals to the community should be immunized in the conventional manner and a constant effort should be made to immunize those who have missed community programs. Vaccine is now available at low cost in a small-dosage vial, and the most important concern of the physician is to be assured of continuous refrigeration of the vaccine at temperatures that are actually freezing, not simply cool.

Triple Vaccine: Vaccine has now been licensed which incorporates all three strains in a single preparation. When the three strains are given together it is unlikely that all three will simultaneously affect the bowel. A single feeding, therefore, will not afford protection against all three strains. It may be that a first feeding of triple vaccine will protect against only one strain, a second feeding will infect the bowel with one or both other strains, and a third feeding will give protection against all three.

Triple oral vaccine has been authorized for use in only two doses for primary immunization — which usually suffices — but some opinions favor giving three doses of the triple vaccine for primary vaccination. Triple vaccine costs more and its effectiveness has not been as thoroughly explored as the use of three doses of single strains. The most important use for triple vaccine is probably for boosters — perhaps better called "mop-up."

Boosters: When are booster doses of poliomyelitis vaccine indicated? There is certainly no great urgency for booster doses for the immunized person who lives in a well protected community. He may or may not have a solid immunity against all three strains but may never have this immunity challenged by significant exposure.

There is a difference in methods, which are important in public health and those which affect the individual patient of the physician. Community programs afford immunity to most persons and in addition give protection by herd immunity to those few who may remain susceptible. The responsibility of the physician to his individual patient is to afford reasonable assurance of protection. A later dose of triple vaccine will assure the patient that if any one of the single doses has not been effective, the late dose will provide an opportunity for immunization against this particular strain. Thus, if he is immune to only two of the three strains, the triple vaccine will provide immunization to the strain which is lacking.

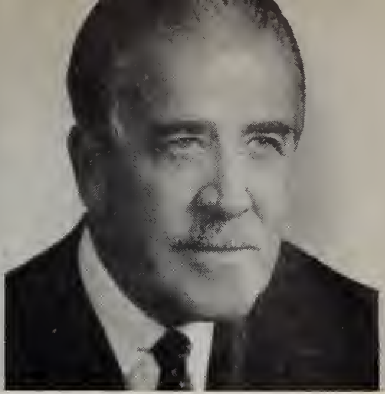
In the case of those vaccinated in infancy, the greatest consideration is to have a durable and effective immunity and the opinion is generally held that a single dose of triple vaccine should invariably be given to such persons after an interval of six to twelve months. This becomes less essential for older children and is probably not necessary for adults except in unusual circumstances.

There is really no reason to object to this additional dose: The cost of triple vaccine is somewhat less than three dollars, the method of administration is completely benign, there are no contraindications and, for the patient who has previously had immunization with single strains, the risks which might be theoretically imagined, appear to be nonexistent.

Foreign travel, service in the armed forces, or other experience which might increase the chance of exposure to particularly virulent strains strongly suggest the advisability of booster dosage. There is no good basis for advising frequent boosters nor evidence on which to establish an interval at which they should be carried out, but it is certain that an additional dose of triple vaccine will not have any ill effects for those who wish continued assurance of solid immunity.

EDWARD B. SHAW, M.D.

The President's Page



Given a calm approach along a unified front, our profession can most effectively further its attempts to maintain a system of practice that it honestly believes is in the best interests of everyone.

If we concentrate our strength on public issues in increasing our support in Congress . . .

If we move vigorously for the improvement of Kerr-Mills aid for the aged . . .

If we continue to encourage the continued growth of voluntary health insurance . . .

And if we continue in our roles as physicians to the communities in which we live and practice . . .

If we do these things in unison and with one voice, our chances of success are great.

Along with these things we must also continue our efforts to make the highest possible quality of medical care available to all persons, whatever their means.

Steps to accomplish this primary objective touch on many aspects of health care in today's environment. Studies are well under way by the California Medical Association on methods of evaluating the quality of care and on medicine's total relationship to today's environmental factors.

We are actively engaged with other professional groups in raising the standards of care given in nursing homes—through certification. Our guiding principles for doctor-hospital relationships, which stress quality of care controls by medical staffs, are being widely accepted.

Our continuing postgraduate program in cooperation with the six California medical schools, our annual scientific assembly—these, too, contribute to the quality of care.

And to administer this care we, in California, have one of the highest ratios of physicians to population in the nation. There are, however, inequities in the distribution of these physicians, with rural areas, in some instances, being undermanned. Even here, however, the CMA is doing its part. Our Physicians' Placement Bureau, one of several professional sources to which these rural areas appeal, was primarily responsible for placing nearly 100 physicians last year in the less populous regions of our state.

From the standpoint of us physicians ourselves, the CMA is increasing its efforts to achieve for the profession equal status with all other suppliers of goods and services who deal with state programs of assistance. The medical profession in California, as elsewhere, gives away much of its skills and services to those without means—but it has every right to object to someone else, in effect, giving its services away for it.

By this I mean that we will continue trying to secure from the state a program of fees for medical and surgical services in welfare cases that comes close to matching the usual, customary and reasonable fees we charge in our daily practices. As things stand now, we are providing our services in these programs for fees based on structures that were set years ago at a level that even then was below the normal.

With all of these goals ahead of us, it gives me a great deal of confidence knowing that I am privileged to work with fellow officers and members of the Council who are leaders of their professional communities, who are widely experienced in the matters that concern us all, and who are dedicated to the highest principles of our profession.

James C. Doyle

California MEDICAL ASSOCIATION

NOTICES & REPORTS

Council Meeting Minutes

Tentative Draft: Minutes of the 499th Meeting of the Council, Los Angeles, Biltmore Hotel, March 20-25, 1964.

The meeting was called to order by Chairman Anderson in the Galeria Room of the Biltmore Hotel, Los Angeles, on Friday, March 20, 1964, at the hour of 4:00 p.m.

Roll Call

Present were President Sherman, President-Elect Doyle, Speaker Quinn, Secretary Hosmer and Councilors Wilson, Todd, Gooel, O'Neill, Bullock, O'Connor, Ham, Rogers, Dalton, Murray, Davis, Miller, Watts, Campbell, Kaiser, Anderson, Dozier, Grunigen, Cosentino, Shaw and MacLaggan.

Absent for cause, Vice-Speaker Heron, Editor Wilbur and Councilor Hudson.

A quorum present and acting.

Present by invitation were Messrs. Hunton, Thomas, Clancy, Collins, Marvin, Whelan, Klutch, Clark, Kamerer, Mrs. Griffith and Doctor Miller of staff; Messrs. Hassard and Huber, legal counsel; Messrs. Read, Salisbury, Putnam and Brown of the Public Health League; county executives Scheuber of Alameda-Contra Costa, Rideout of Butte-Glenn, Rosenthal of Forty First, Geisert of Kern, Lingerfelt of Fresno, Dalbec and Field of Los Angeles, Sommerville of Napa, Donmyer of San Bernardino, Nute of San Diego, Neick of San Francisco, Thompson of San Joaquin, Burgess of Santa Barbara, Walters of Riverside and Brown of Sonoma; Doctor Malcolm Merrill, State Director of Public Health; Doctor Lester McDonald, Medical Director of the State Department of Social Welfare; John Pompelli of the AMA; Robert Garrick, Consultant; Clifton H. Linville, President of the California Hospital Association; Doctors Dan O. Kilroy, Warren L. Bostick, Harold Kay, Robert L. Dennis, Walter Brignoli, Joseph Boyle, Omer W. Wheeler and others.

1. Minutes for Approval

Minutes of the 498th Council meeting, held February 9, 1964, were presented and one omission noted.

ACTION: Minutes approved as corrected.

2. Membership

(a) A report of membership as of March 15, 1964, was presented and ordered filed.

(b) Application for election of 23 Associate Members was presented.

ACTION: Associate Membership voted for Charles L. Collins, Harold T. Unsell, Lassen-Plumas-Modoc-Sierra; Harold N. Brodersen, Robert B. Drury, William R. Kimball, Richard A. Lockwood, Los Angeles County; Philip Joseph McNamara, Marin County; Ephraim Korol, Napa County; James A. Grider, Jr., Arnold R. Haugen, Chan H. Lee, Viola Veler Newby, Thais Verdelle Thrasher, San Bernardino County; Aaron Weiss, San Diego County; Gilbert Gordan, Charles H. Pettet, San Francisco County; Lloyd R. Hennig, San Luis Obispo County; Harry Mandell, San Mateo County; M. Harry Jennison, Franklin Matsumoto, Santa Clara County; John W. Bushnell, E. I. Sorenson, Tulare County; Gulden Mackmull, Ventura County.

(c) Applications for Retired Membership for 23 members were presented.

ACTION: Retired Memberships voted for: Raymond J. Nutting, Harry J. Templeton, Alameda-

JAMES C. DOYLE, M.D.	President
RALPH C. TEALL, M.D.	President-Elect
WILLIAM F. QUINN, M.D.	Speaker
JOSEPH W. TELFORD, M.D.	Vice-Speaker
CARL E. ANDERSON, M.D.	Chairman of the Council
ALBERT G. MILLER, M.D.	Vice-Chairman of the Council
MATTHEW N. HOSMER, M.D.	Secretary
DWIGHT L. WILBUR, M.D.	Editor
HOWARD HASSARD	Executive Director
JOHN HUNTON	Executive Secretary

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Contra Costa; Leonard Averett, Karel B. Blahnik, William F. Carver, John Wm. Colbert, George Emel Johnson, Hugh Toland Jones, Herz N. Mantchik, Walter Loren Newburn, Hugh J. Strathearn, Los Angeles County; Erwin P. Miller, Riverside County; E. David Akers, Paul W. Frame, Richard O. Schofield, Sacramento County; Philipp J. R. Schmahl, San Bernardino County; Adrian E. Clark, San Diego County; Elizabeth Arthurs, Robert R. Newell, San Francisco County; Albert K. Merchant, San Joaquin County; Charles L. Ianne, Ira J. Hopkins, Dell T. Lundquist, Santa Clara County.

(d) Applications for reduction of dues for 27 members for reasons of prolonged illness or postgraduate study were presented.

ACTION: Reduction of dues voted for 27 applicants.

3. New Business for House of Delegates

(a) Approval voted for introduction of Resolution No. 61-64 relating to component society consideration of fee complaints against non-members.

(b) Approval voted for introduction of Bylaw amendment 8-64 relating to services of the Committee on Mediation.

(c) Approval voted for introduction of Bylaw amendment 13-64 relating to disciplinary procedures.

(d) Approval voted for introduction of Resolution No. 92-64 relating to physical examination of teacher candidates.

(e) Referred to Committee on Legislation a resolution presented by a San Francisco member asking support of legislation under consideration by a legislative interim committee.

(f) Approved introduction of Resolution No. 93-64 by Councilor Bullock on labeling of cigarette packages.

(g) Approved introduction of Resolution No. 94-64 relative to county-CPS coordinating committees.

4. Supplemental Report of Council

A proposed supplemental report of the Council to the House of Delegates was presented, covering statements on the Short-Doyle program, a current study of the Industrial Accident Commission, medical discipline, hospital staff problems in Santa Barbara, medical specialists' certification review and developments in the Bureau of Communications.

ACTION: Proposed report approved for introduction into House of Delegates.

5. Order of Business in House of Delegates

Discussion was held on the procedure to be followed in introducing into and action on reports of ad hoc committees of the House of Delegates. It was pointed out that early action on some reports might affect the procedures of the House of Delegates in later sessions of the same meeting.

ACTION: Voted that reports of ad hoc committees of the House of Delegates should be introduced for appropriate action in the first session of the meeting.

6. Ad Hoc Committee on Council Format

Committee report was presented, including one section dealing with the size of the Council in coming years. This section recommended that membership on the Council by District Councilors be based on a representation of one District Councilor to each 1250 active members in the district.

ACTION: Voted to include this discussion in the supplemental report to the House of Delegates, for informational purposes only, and to continue the ad hoc committee for another year for further study.

7. Committee on Allied Health Agencies

A committee report recommending no action be taken on the conclusions of Resolution No. 69-63 was presented.

ACTION: Committee report approved. No action to be taken.

8. Commission on Medical Services

The commission recommended that a grant of $3,000 be made to the Joint Commission for Accreditation of Nursing Homes and Related Facilities. The Association had previously guaranteed $46,000 of loans for this organization but had not made any grants as such.

ACTION: Referred to Finance Committee for study and report.

9. Finance Committee

A request for a contribution of $1,000 to assist in legislative activities of a national organization, the National Society for Medical Research, was presented.

ACTION: Referred to the Finance Committee for study and report.

10. Ad Hoc Committee on Foreign Medical Services

The committee presented a progress report and discussed its plans for further activities. It asked an appropriation of $750 for the coming year and requested that such a committee be made a part of the structure of standing commissions and committees, with staff and budget provisions.

ACTION: Referred to Finance Committee for study and report.

11. Ad Hoc Committee on Council Format (See also Item No. 6)

The committee report was discussed in sections, including:

(a) Recommended that all matters requiring Council action be mailed to Council members at least a week in advance of Council meetings.

ACTION: Recommendation approved.

(b) Recommended that Council liaison with commissions be in the form of a Councilor assigned to each commission, without vote. Discussion was held on the proposed ex-officio status of Councilors so assigned and the advisability of the Councilor as liaison officer having or not having a vote on the commission.

ACTION: Referred to staff for rewording of recommendation to provide a vote for the assigned Councilor. Also referred for information to the Committee on Committees.

(c) Recommended that present format of Council minutes be retained, that the digest "Council Hi-Lites" be continued in present format and that component societies be urged to publish this digest or have it included in reports from district councilors.

ACTION: Referred to Bureau on Communications for implementation.

(d) Recommended that Scientific Board member serving on Council be given a vote on that body.

ACTION: Voted to present to House of Delegates in a proposed amendment to the Constitution for study by an ad hoc committee of the House.

12. House of Delegates Resolution

Report was made by the Committee on Legislation that a resolution presented by a San Francisco member asking support of a legislative proposal now before a legislative interim committee should be considered an emergency and presented to the House of Delegates.

ACTION: Approved introduction of resolution.

13. Report of the President

President Sherman reported on his recent activities, including a meeting with the San Luis Obispo County Medical Society and its auxiliary, a meeting with the Western Interstate Commission on Higher Education, at which Doctor Edward B. Shaw gave a scholarly presentation, a meeting with Michigan physicians on the subject of osteopathic unification in that state, a student AMA meeting in Los Angeles sponsored by CMA and a Santa Barbara meeting on the progress of the welfare programs there. Doctor Dalton also reported on the Santa Barbara meeting and Doctor Cosentino on the Michigan meeting.

ACTION: Voted to prepare a report on the Santa Barbara County Welfare program, before and after inauguration of a pre-payment system, copies to be sent to other component societies, members of Congress and others.

Doctor Sherman also informed the Council on the planned program of medicine and religion at the June meeting of the American Medical Association in San Francisco.

Doctor Sherman also presented a request from the California Veterinary Medical Association that a liaison committee be named to meet with a similar committee of CVMA for the discussion of matters of mutual interest.

ACTION: Voted to appoint an ad hoc committee, to be named by the Committee on Committees, to meet with the CVMA and to allow necessary budget provision for such committee.

14. Committee on Legislation

Doctor Dan O. Kilroy, committee chairman, reported on two bills now before the legislature. One, AB 91, would extend the present hospital survey and construction act to include hospitals and facilities for the mentally ill and mentally retarded. The other, AB 92, would add to the present Hospital Advisory Council of the State Department of Public Health four additional members, all with interests in the fields of mental health and mental retardation. This Council now administers the distribution of Hill-Burton funds. Discussion was held on the consequences of this proposed addition to an eight-man council and Doctor Merrill was asked to comment.

ACTION: Voted to ask Committee on Legislation to follow these measures and report to the next meeting.

Doctor Kilroy also reported on a measure to establish two respiratory centers in the state, a proposal which passed both houses of the Legislature in 1963 and was vetoed by the Governor but which has now been included in the state budget. It was pointed out that the Los Angeles County Medical Association has voted to oppose the establishment of these centers.

ACTION: Voted to oppose, in light of the lack of established need for such centers, their establishment.

A request from a legislator was presented, asking approval of a study of a possible change in name of the State Department of Mental Hygiene.

ACTION: Approval voted for such study.

Doctor Kilroy asked the Council to consider at its convenience the establishment of a full-time office in Sacramento for legislative purposes. He also reported that the terms of two members of the Board of Medical Examiners would soon expire and that a third vacancy on the board would appear later and should be filled by a member from the Los Angeles area.

ACTION: Voted to recommend reappointment of Doctors West and McNulty to Board of Medical Examiners if they are willing to serve.

Doctor Kilroy reported that Senate Bills 333 and 374, sponsored by CMA in the 1963 session, would be heard before an interim committee in Sacramento in April.

Funds for a motivational study under the vaccination assistance act, to determine why the level of vaccinations is not higher, have been recommended for deletion from the state budget.

ACTION: Voted to reaffirm Council's support of proposed motivational study of vaccinations.

15. State Department of Public Health

Doctor Malcolm Merrill, state director of Public Health, presented a financial outline of the department, pointing out that annual budget funds of more than $44,000,000 are derived 29 per cent from federal sources and that 72 per cent of fund allocations are for local area programs. Hospital and health facility construction, Hill-Burton allocations, crippled children and tuberculosis aid rank in that order for fund allocations. He also surveyed the rising or falling importance of a number of public health programs and reported that CMA assistance would probably be sought in looking into the trend of increasing rates of infectious syphilis and tuberculosis.

16. California College of Medicine

Doctor Warren Bostick, dean of California College of Medicine, reported that a meeting would be held in the next week with accreditation authorities. He also reported that more than 800 applications have been received for 96 available places in the new beginning class.

17. Medical Executives Conference

Joseph Donovan, chairman, reported on the March 20 meeting, including discussion of the Western 65 program, the identification of physicians in telephone book pages and viewing an anti-smoking film produced by Marin Medical Society with CMA assistance. He also reported that Mrs. Jean Burgess and Mr. Marvin Walters, executive secretaries in Santa Barbara and Riverside Counties, had been elected to the conference and that Everett Bannister of Orange County has been elected chairman.

18. Ad Hoc Committee on Air Pollution

A committee report was presented, including the recommendation that a permanent committee be established and given budgetary support. Discussion was held on this recommendation.

ACTION: Voted to refer report and recommendations to the Commission on Public Agencies for study and later report on committee and budgetary needs.

19. Finance Committee (continued)

Doctor Murray reported that the Finance Committee had approved the giving of a grant of $3,000 to the California Commission for Accreditation of Nursing Homes and Related Facilities, rather than acting only as a guarantor of bank loans in that amount.

ACTION: Voted to contribute $3,000 to the California Commission for Accreditation of Nursing Homes and Related Facilities.

19 a. Commission on Medical Services

The commission recommended that the Council name one specific commission or committee to handle all aspects of the implementation of the Kerr-Mills program in California.

ACTION: Voted to follow commission's recommendation.

20. Commission on Community Health Services

Doctor Harold Kay, commission chairman, presented a report which included statements on (1) pesticides and (2) rehabilitation, both of which were recommended for Council approval.

ACTION: Voted to approve above two statements.

21. Scientific Board

Doctor Edward B. Shaw, chairman, reported that the Scientific Board would meet March 23 to consider a variety of items assigned to it and would report back later.

Doctor Shaw also reported that the board proposed to make a study of medical libraries, calling upon the Bureau of Research & Planning and the California Libraries Association for consultative services. Pending the completion of this study and the investigation of possible foundation or other outside support for medical libraries, the commission recommended that no additional appropriations be made to medical libraries.

ACTION: Voted to approve board recommendations.

22. Finance Committee (See also Item No. 9)

Committee recommended that no financial support be given National Society for Medical Research at this time but that individual members should be urged to make contributions.

ACTION: Committee recommendation approved.

Committee recommended that no budget be established at this time for a Committee on Foreign Medical Services.

ACTION: Proposal to establish committee and give it budgetary support tabled for further study by staff to determine the capacity of the AMA to handle the desired objectives.

23. Legal Department

Mr. Hassard reported on two suits filed by osteopathic interests. One suit, involving a claim by some trustees of the former osteopathic school that the school has no legal right to convert to a medical school, has been granted a hearing by the state Supreme Court on appeal.

Mr. Hassard also presented a request that the CMA appear as amicus curiae in a case involving discrimination. Legal counsel does not believe that such an appearance would be practical.

ACTION: Voted not to appear as amicus curiae in discrimination case.

24. Conference on Medicine and Pharmacy

Councilor Murray reported that he and Councilor Miller had attended an AMA conference in Chicago on the subject of ownership of pharmacies by physicians. Report for informative purposes; no action.

25. Audio-Digest Foundation

Messrs. K. L. Hamman and Claron Oakley reviewed the past year's activity of Audio-Digest Foundation and predicted continued successful operations in the coming year, with surplus funds from operations again to be contributed to medical education.

ACTION:

1. Voted, on the tenth anniversary of Audio-Digest Foundation, to memorialize Jerry L. Pettis for his inventiveness and foresightedness in establishing the organization and turning it over to CMA.
2. Approved and ratified all corporate acts of Audio-Digest Foundation in the past year.
3. Approved an increase in the membership of the Board of Trustees, from 12 members to 15.
4. Elected as members of the Board of Trustees the following: Donald D. Lum, Milton Futterman, Ralph C. Teall, Mr. K. L. Hamman, Mr. Claron Oakley, Elmer Gooel, Telfer Reynolds, Gordon Beckner, James C. Doyle, William D. Evans, Robert Marsh, John Pender, Merlin Hendrickson, Keith Russell, Donald Shelby.

26. Committee on Committees

Doctor Doyle, chairman, submitted a list of committee and commission nominations for approval.

ACTION: List approved as submitted.

27. Past President on Council

Councilor Wilson recommended that the past president be made a member of the Council, with a vote.

ACTION: Voted to introduce constitutional amendment to effect this proposal. Pending action by House of Delegates, past president to be invited to participate in Council business.

28. Judicial Commission

Councilor Wilson presented the Judicial Commission's report on Resolution No. 94-63, relative to professional courtesy.

ACTION: Voted that copies of report be sent to all members of the Council for their consideration at next meeting.

ACTION: Voted to refer report to Bureau of Research & Planning for study and report on overhead costs and other facets of the practice of psychiatry.

Adjournment

Following farewells to Doctors Heron, Davis, O'Neill, Dalton, Campbell and Hudson, retiring members of the Council, and welcoming of their successors, Doctors Telford, Wilbur, Taw, Maguire, Fenlon and Kay, the meeting was adjourned at 8:50 a.m., Wednesday, March 25, 1964.

CARL E. ANDERSON, M.D., *Chairman*
MATTHEW N. HOSMER, M.D., *Secretary*

500th Meeting

Tentative Draft: Minutes of the 500th meeting of the Council, Los Angeles, March 25, 1964.

The meeting was called to order by Chairman Anderson in the Galeria Room of the Biltmore Hotel, Los Angeles, on Wednesday, March 25, 1964, at 4:20 p.m.

Roll Call

Present were President Doyle, President-Elect Teall, Speaker Quinn, Vice-Speaker Telford, Secretary Hosmer, Acting Editor Wayburn, and Councilors MacLaggan, Wilson, Bullock, Gooel, Ham, O'Connor, Rogers, Todd, Maguire, Miller, R. Wilbur, Murray, Dozier, Fenlon, Watts, Kaiser, Kay, Anderson, Cosentino, Grunigen, and Shaw.

Absent for cause, Editor Wilbur, Councilor Taw.

A quorum present and acting.

Present by invitation were Messrs. Hunton, Thomas, Whelan, Marvin, Clark, Collins Bowman, Clancy and Klutch of CMA staff; Howard Hassard, legal counsel; and Doctors Samuel R. Sherman, Stuart Knox and William Bellamy, president of the Northern California Psychiatric Association.

The chairman welcomed Doctors Telford, vice-speaker, and Councilors Fenlon, Maguire, R. Wilbur and Kay as new members of the Council.

1. Election of Officers

On nominations duly made and seconded, the following officers were unanimously elected: Chairman, Carl E. Anderson; Vice-Chairman, Albert G. Miller.

2. Administrative Appointments

On nominations duly made and seconded, the following were chosen for appointment: Secretary, Matthew N. Hosmer, M.D.; Executive Secretary, John Hunton; Editor, Dwight L. Wilbur; M.D.; Legal Counsel, Peart, Baraty & Hassard.

3. *Appointment of Committees*

The chairman, the Council concurring, named the following committees to serve for one year:

(a) Finance Committee—Murray, chairman, Todd, Cosentino, Miller, Kay.

(b) CPS Trustees—Rogers, R. Wilbur, Maguire.

(c) Advisory Committee to Woman's Auxiliary—Doyle, Teall, Hosmer, Warren L. Bostick, William F. Quinn.

(d) Committee on Legislation—Dan O. Kilroy, chairman, Stuart Knox, Samuel R. Sherman, John Rumsey, John G. Morrison.

(e) Committee on Committees—Teall, chairman, Doyle, Dozier, Miller, Rogers, Todd, Wilson, Grunigen, Kaiser, Watts, Anderson, Quinn.

(f) Liaison Committee to State Department of Finance — moved, seconded and voted to defer action pending appointment of an ad hoc committee of the House of Delegates.

(g) Committee on Implementation of Kerr-Mills Law—moved, seconded and voted to refer to Committee for Emergency Action.

4. *Meeting Place for 1967 Annual Session*

Motion was made, seconded and voted that staff should investigate available facilities in San Diego as a potential meeting place for the 1967 Annual Session.

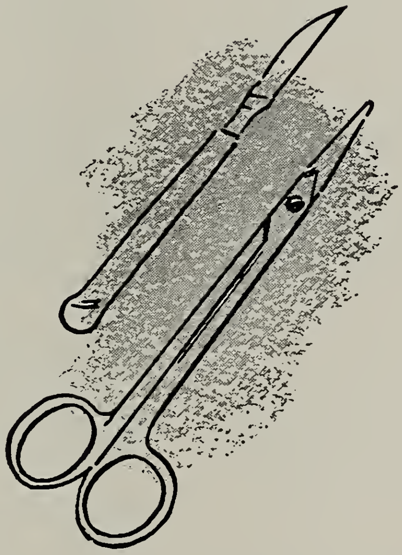
5. *Time and Place of Next Meeting*

It was agreed that the next Council meeting would be held in San Francisco on May 2, 1964.

Adjournment

There being no further business to come before it, the meeting was adjourned at 4:40 p. m.

Carl E. Anderson, M.D., *Chairman*
Matthew N. Hosmer, M.D., *Secretary*



In Memoriam

Bjorkman, George H., Cloverdale. Died February 21, 1964, in Phoenix, Arizona, aged 40, of aplastic anemia. Graduate of the University of Utah College of Medicine, Salt Lake City, 1950. Licensed in California in 1951. Doctor Bjorkman was a member of the Sonoma County Medical Society.

◆

Brown, Blanche C. Boyle, Los Angeles. Died April 12, 1964, in Santa Monica, aged 85, of cerebral thrombosis. Graduate of the University of Michigan Medical School, Ann Arbor, 1903. Licensed in California in 1914. Doctor Brown was a retired member of the Los Angeles County Medical Association and the California Medical Association, and an associate member of the American Medical Association.

◆

Chase, Frank Hernon, San Gabriel. Died March 31, 1964, in San Gabriel, aged 72, of heart disease. Graduate of the College of Physicians and Surgeons, Medical Department, University of Southern California, Los Angeles, 1915. Licensed in California in 1916. Doctor Chase was a member of the Los Angeles County Medical Association.

◆

Collins, Donald Clark, Los Angeles. Died March 29, 1964, in Los Angeles, aged 62, of heart disease. Graduate of the University of California School of Medicine, Berkeley-San Francisco, 1927. Licensed in California in 1927. Doctor Collins was a member of the Los Angeles County Medical Association.

◆

Dunlop, John, New Jersey. Died March 15, 1964, in Princeton, New Jersey, aged 87. Graduate of Johns Hopkins University School of Medicine, Baltimore, Maryland, 1902. Licensed in California in 1919. Doctor Dunlop was a retired member of the Los Angeles County Medical Association and the California Medical Association, and an associate member of the American Medical Association.

◆

Felberbaum, William, Santa Paula. Died March 8, 1964, in Santa Paula, aged 75. Graduate of the University of Oregon Medical School, Portland, 1924. Licensed in California in 1925. Doctor Felberbaum was a retired member of the Ventura County Medical Society and the California Medical Association, and an associate member of the American Medical Association.

◆

Firor, Marion Percival, Los Angeles. Died March 19, 1964, in Inglewood, aged 70, of congestive heart failure. Graduate of the University of Pennsylvania School of Medicine, Philadelphia, 1926. Licensed in California in 1931. Doctor Firor was a member of the Los Angeles County Medical Association.

◆

Fuchs, Jesse, Beverly Hills. Died March 21, 1964, in Boston, Massachusetts, aged 48. Graduate of New York University College of Medicine, New York, 1940. Licensed in California in 1945. Doctor Fuchs was a member of the Los Angeles County Medical Association.

◆

Goldberg, Sylvan Segal, Beverly Hills. Died March 15, 1964, in Los Angeles, aged 68, of a coronary. Graduate of the University of Texas School of Medicine, Galveston, 1919. Licensed in California in 1921. Doctor Goldberg was a member of the Los Angeles County Medical Association.

◆

Harris, Ray Edwin, San Francisco. Died March 14, 1964, in Hillsborough, aged 66. Graduate of St. Louis University School of Medicine, Missouri, 1925. Licensed in California in 1926. Doctor Harris was a member of the San Francisco Medical Society.

◆

Johansen, Robert, San Jose. Died March 30, 1964, aged 39, from injuries suffered in an automobile accident. Graduate of the University of California School of Medicine, Berkeley-San Francisco, 1947. Licensed in California in 1947. Doctor Johansen was a member of the Santa Clara County Medical Society.

◆

Moore, Fred Tucker (F. Tucker), Los Angeles. Died March 6, 1964, in Los Angeles, aged 69, of diabetes. Graduate of Meharry Medical College, Nashville, Tennessee, 1917. Licensed in California in 1924. Doctor Moore was a member of the Los Angeles County Medical Association.

◆

Otis, Newton Murdock, Santa Monica. Died March 24, 1964, aged 90. Graduate of Rush Medical College, Chicago, Illinois, 1897. Licensed in California in 1922. Doctor Otis was a retired member of the Los Angeles County Medical Association and the California Medical Association, and an associate member of the American Medical Association.

◆

Schaper, Edward A., San Francisco. Died April 6, 1964, in San Francisco, aged 78, of heart disease. Graduate of Stanford University School of Medicine, Palo Alto-San Francisco, 1922. Licensed in California in 1922. Doctor Schaper was a retired member of the San Francisco Medical Society and the California Medical Association, and an associate member of the Americal Medical Association.

◆

Stiles, Frank Elwood, San Francisco. Died March 29, 1964, aged 67. Graduate of Yale University School of Medicine, New Haven, Connecticut, 1925. Licensed in California in 1927. Doctor Stiles was a member of the San Francisco Medical Society.

◆

Takemoto, Katsumi, Watsonville. Died March 8, 1964, aged 41, of heart disease. Graduate of the University of California School of Medicine, Berkeley-San Francisco, 1953. Licensed in California in 1954. Doctor Takemoto was a member of the Santa Cruz County Medical Society.

◆

Washburn, William Wallace, San Francisco. Died March 22, 1964, in San Francisco, aged 73, of heart disease. Graduate of the University of California School of Medicine, Berkeley-San Francisco, 1917. Licensed in California in 1917. Doctor Washburn was a member of the San Francisco Medical Society.

◆

Wolfes, Ernest, San Francisco. Died March 25, 1964, in San Francisco, aged 63. Graduate of Hemburgische Universität Medizinische Fakultat, Hamburg, Germany, 1925. Licensed in California in 1935. Doctor Wolfes was a member of the San Francisco Medical Society.

PUBLIC HEALTH REPORT

MALCOLM H. MERRILL, *M.D., M.P.H.*
Director, State Department of Public Health

As A STEP toward protecting children from physical abuse by their parents or caretakers, several hospitals in the Los Angeles area have established a reporting system to inform participating physicians about previous suspicious histories in cases of injuries to children.

California law requires a physician to make a report to the head of the nearest police department or nearest welfare agency offering child protective services when there is reasonable cause to suspect that a physical injury was inflicted by a parent or caretaker.

Frequently, however, there is insufficient information on which a physician can base a reasonable suspicion that the injury was inflicted or accidental. This is compounded by the fact that parents or other caretakers who may inflict injury repeatedly are likely to take the child to different physicians or hospitals in order to avoid suspicion.

As a trial of a way to meet this problem, a central index for reporting such injuries has been established in the Los Angeles office of the State Health Department's Bureau of Maternal and Child Health.

The central index is not a substitute, however, for reporting suspected injuries to the appropriate law enforcement agency or child welfare agency.

* * *

Dr. Jack D. Gordon, assistant chief of medicine at Mt. Zion Hospital, and chairman of the San Francisco County Medical Society Committee on Alcoholism, has been named to the department's 15-member Alcoholic Rehabilitation Advisory Committee. The group represents a wide range of public agencies, professions and interests concerned with alcoholism in California.

* * *

At this time, 38 of California's 58 counties have been declared rabies areas. There were 306 reported cases of animal rabies last year, of which 208 were in wildlife and 86 were in dogs. All but two of the canine cases were from the Mexican Border area.

* * *

During the first 12 weeks of this year, the number of Salmonella derby isolations reported weekly was considerably greater than the number reported during the like period in 1963—36 compared with 14. The total number of salmonella cases of all kinds during the period numbered 446, against 373 in the corresponding period of 1963.

A number of the isolations obtained in California this year have been forwarded from hospital laboratories and had been obtained from patients who developed a diarrheal illness during a stay in hospital.

This becomes a matter of significance when viewed in the light of the outbreaks of hospital acquired Salmonella derby infections that were first noted during the spring and summer months of 1963 in approximately 50 hospitals in 13 states.

Epidemiological study of the 1963 epidemic in the eastern United States implicated raw or undercooked eggs as the source. However, as the outbreak continued, it became apparent that a number of cases were occurring which could not be related directly to eggs. Rather, there were many instances of spread via person-to-person contact with both asymptomatic carriers and contaminated fomites. Thus, the true significance of an outbreak may escape detection if it appears as a number of seemingly unrelated cases occurring over a long period.

The Bureau of Communicable Diseases urges prompt reporting of hospital acquired Salmonellosis and offers assistance, within the limits of available personnel, in the epidemiologic evaluation of hospital associated disease.

* * *

The Automobile Manufacturers Association has announced a target date of autumn, 1966, to make 1967 model automobiles for sale in California comply with the state's vehicle emission standards.

According to the association, techniques and devices for implementing this objective are now in the product engineering stage. California's exhaust emission standards provide that exhaust contaminants cannot exceed 275 parts per million, by volume, of hydrocarbons and 1.5 per cent by volume of carbon monoxide.

It is indicated that changes would be made to engines rather than by using muffler type exhaust control devices. While more complex, the program for introducing exhaust emission control is similar to the automotive industry's introduction of crankcase ventilation control. In 1960 the industry introduced crankcase control devices which were successful in reducing vehicle emissions from this source.

INFORMATION

Guiding Principles for Physician-Hospital Relations

WALTER E. BATCHELDER, *M.D.*, San Mateo*

MY ASSIGNMENT is to discuss with you the "Guiding Principles for Physician-Hospital Relationships," and my remarks will be directed primarily to the medical profession and will concern medical staff functions.

During the 1959 session of the California Legislature, it became evident that there were forces at work seeking to remove the control of hospital *operations* from the traditional voluntary way of doing such things, and putting them under more state control —both hospital licensure and medical staff functions.

The governing bodies of both the California Medical Association and the California Hospital Association, being aware of this trend and having a deep concern in these matters, directed high level committees to study the matter and return with recommendations.

As a result, there were developed, as you were told by Mr. Jackson,† the "Guiding Principles for Hospitals" and the "Guiding Principles for Physician-Hospital Relationships." These latter were adopted by the House of Delegates of the California Medical Association in 1960.

A medical staff is charged with the responsibility of assuring the highest quality of medical care possible within the hospital. These Guiding Principles outline for the physician how he as a member of the medical staff can assist in the discharging of his responsibility to his colleagues, to the governing body of the hospital, and to the community.

They outline how the medical staff can make its views known to the administration, and by the same token, ways by which the administration can make its views known to the medical staff. Such cooperation is part of the professional skill needed in order that both can work as a coordinated team to assure modern quality medical care for our citizens.

We have heard it said on many occasions that such Guiding Principles as have been developed are not necessary because of the fact that the Joint Commission on Accreditation of Hospitals has essentially the same type of requirements for accreditation as are outlined in the Guiding Principles. Granted the requirements are essentially the same, but I hasten to add that the implementation of the requirements is quite different.

A surveyor visiting the hospital on behalf of the Joint Commission once every three years to ascertain the degree of compliance with the minimum standards of the Commission, is quite different from the day-to-day observation and surveillance, if you will, of local committees established for this purpose. In my opinion, it is essential for the local group to be aware continually of what is transpiring within the hospital in terms of the quality of medical care being rendered, and to make whatever adjustments are necessary to assure that the high standards established by the medical staff are being complied with. A one or two-day visit by a surveyor from Chicago has its place, but is not adequate to do the type of continual day-to-day and week-to-week review that is so essential in discharging our responsibilities. The *medical community* can pridefully point to accreditation standards developed nationwide, but it must today be able to assure the community that those standards are being attained in the local hospitals.

In the "Guiding Principles," one finds listed the essential medical staff committees, such as the executive committee, credentials committee, records committee, surgical audit committee, medical procedures committee, joint conference committee, and the *utilization committee.* Each committee's function is outlined and its sphere of interest delineated. Also included in the Guiding Principles, one will find a suggested outline that can be followed when disciplinary action ought to be effected against those not performing in the best interests of the patients. Additionally, in the October, 1961 issue of CALIFORNIA MEDICINE, there appeared an article entitled "Tissue Committee of a Hospital Medical Staff," which contains a description of a method that can be followed by all types of review committees.

The California Medical Association has appointed a statewide survey committee which is available to assist the local committees with their first survey. The local committee may consist of a representative appointed by each of the hospital medical staffs within their community. The initial survey team that goes into any given hospital has representation from the state committee as well as from the local committee. A physician assigned to the local committee will not be on the team that surveys the hospital where he does his major work. On invi-

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†Henry X. Jackson, administrator of Valley Presbyterian Hospital, Van Nuys. At the time of this presentation Mr. Jackson was president-elect of the Hospital Council of Southern California.

*At the time of this presentation Dr. Batchelder was Associate Director, Commissions and Committees, California Medical Association.

From *A Time for Decision—Proceedings-1963*—A Seminar for Hospital Governing Boards, Medical Staffs, Key Auxiliaries and Administrators, sponsored by Blue Cross of Southern California, Fall, 1962.

tation, a careful survey is made of the medical staff review committee's activity within the hospital. When they are found to be functioning properly, the hospital medical staff is given a certificate of approval by the California Medical Association. If they are not, recommendations are made which point out their weakness and suggestions are made for improvement. Subsequent surveys of the hospital are made by the local committees, and if found to be complying with the standards, a certificate is issued.

What are some of the things that survey teams have already discovered? A credentials committee that does an excellent job in screening the active staff, but does little or nothing concerning the courtesy staff; a records committee that has delegated all its work to one man; or a fine committee of excellent men who never review a file unless the record librarian brings it to their attention; a tissue committee with a most accommodating pathologist; a medical review committee that never looks for anything and never finds anything. We can all think of other situations at which the local survey team might well take a good, hard look.

Refined delineation of quality care is not a practical goal at this time, but certainly control of gross instances of questionable medical care in hospitals is a practical and necessary objective. It is never a pleasant task. Recognizing this and appreciating its importance, the legislature has given a limited privilege or immunity to the members of committees who perform these essential functions.

Each hospital governing board and medical staff should adopt a resolution approving the Guiding Principles. Provision should be made for each member of the medical staff to indicate his willingness to abide by the Guiding Principles. This is usually done by a statement on the application and reapplication form that is signed by the physician when he requests staff privileges.

In the implementation of the Guiding Principles, it is most important that both the governing board and the medical staff be sincere in their desire to abide by them. If earnestness is not exhibited, then there is little use in adopting them. Time is of the essence, and we cannot delay much longer in having every hospital in California adopt these Principles. We have said that only a physician is competent to review the work of physicians. The public expects and the law authorizes to establish and maintain necessary means to judge competence and assure quality care on a voluntary, self-educational and disciplinary basis. If we do not exercise this privilege, it will be forfeited and passed to the state to be administered on a compulsory basis with standards established and enforced by it. I don't believe anybody in this room wants this to happen!

The time has long since gone for merely talking a good game . . . we must demonstrate that we mean business. Our question for today is "to act or react?" I say to react is healthy, provided constructive and sincere action follows.

San Mateo County Dept. of Public Health and Welfare, 225-37th Avenue, San Mateo, California 94403.

The Role of the Medical Staff Hospital Utilization Committee

EDWARD H. CRANE, M.D., Los Angeles*

WHILE REPRESENTING the medical profession over the past years in county medical association work and on hospital boards, I have been reminded repeatedly that the hospital and its staff must work out their problems together. An attempt by either the hospital or the staff to put the other in a subservient role will create problems, not solve them.

The preservation of our hospital standards, our excellence of patient care, and our independence of governmental control will depend directly on future control of hospital costs. Organized medicine, particularly in the Los Angeles County Medical Association, has come to realize that the development of *adequate* health insurance coverage at a reasonable premium cost is a must. It is our firm belief that this can be accomplished by control of abuses, financial participation by the patient through intelligent deductibles, education of all parties concerned, and by properly controlled use of benefits available.

You have heard from Dr. Batchelder regarding the importance of adopting "The Guiding Principles for Physician-Hospital Relationships." In order to inject some certainty into their actual implementation, the survey committees outlined by Dr. Batchelder will be available. However, let me again remind you, these committees can act only if your staff requests their help. Let me make the basic reasons clear to everyone here. In the first place, only doctors of medicine can accurately judge the quality of medical care.

Secondly, the disciplined medical staff of a hospital is the one place where our quality standards are maintained. There is little or no control elsewhere. We are proud of the high standard of medical care in the United States and the physician who willingly judges his fellows, and allows them to judge him, has made this high standard possible. Such conduct and standards are maintained outside the hospital in the practice of each physician in his office. High standards of medical care reflect from the hospital to the private office and back again to the hospital. It is our responsibility to maintain our high stand-

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*Past President, Los Angeles County Medical Association.

From *A Time for Decision—Proceedings-1963*—A Seminar for Hospital Governing Boards, Medical Staffs, Key Auxiliaries and Administrators, sponsored by Blue Cross of Southern California, Fall, 1962.

ards, expand them to all hospitals, and to improve them. The implementation of the "Guiding Principles" will aid us. The assistance of the survey committees will make our job easier . . . sufficient reason, I think, to request their help.

Active participation of the staff in control of patient use of hospital services and supplies is of paramount importance. We cannot deny that some patients stay too long in hospitals, are admitted unnecessarily, have too many x-rays, too much laboratory work, and take home too much hospital prescribed (insurance paid) medication for home use. All this adds up to higher premiums and less adequate health insurance coverage.

The most important first step in correcting this situation is the education of the hospital staff. Many of us who have been working on these problems, forget that the average physician is not as aware of these problems as he should be. It is therefore up to staff leaders to hold meetings and issue communications repeatedly, until they are sure that their staff is knowledgeable. This can be augmented by key men on the staff with constant repetition in the coffee room, dressing rooms, in committee meetings and in the hospital corridors. A willingness on the part of the staff to seek aid and constructive criticism from the survey committees is a must, of course.

At this point, may I indicate to you the necessity of awareness on the part of the staff of the importance of costs in preserving those things we value. We must keep costs in mind when we make executive committee decisions which unnecessarily prolong patient stay merely for the convenience of the hospital or the doctor. Early admission of patients mainly for laboratory work which could easily be done before the patient is admitted, is an example.

After adequate education of your staff, the next step follows easily, with the establishment of a Utilization Committee. This committee will function in much the same manner as the Tissue Committee or the Surgery Committee, with hospital records as the source material. Cases can be referred to this committee from the Surgery, Tissue, Medical and other Committees as indicated.

Specifically, the Committee should devote its attention to these areas:

1. Unnecessary admissions,
2. Excessive length of inpatient stay,
3. Overuse of x-ray, and other diagnostic and therapeutic services, and
4. Delay in transferring convalescent to less expensive accommodations.

In each of these categories, the Utilization Committee can provide answers to such questions as:

1. How many such cases are there?
2. What factors contribute to their existence, and
3. What practical suggestions can be made to the proper authority to avoid these situations?

Diplomacy must be the watchword of this committee, and experience will furnish criterion for proper judgment. The very existence of the committee will have a positive effect. Awareness of the many factors which influence hospital usage will be very important. Types of insurance coverage, attitudes of employee groups, and the differences in individual practice patterns will also be important. We must realize that staff control, so far as usage is concerned, is new. There will be resentment; and, unless the first step of staff education is well done, this resentment could wreck the effort.

If is of great importance that we do not ride roughshod over the practice habits of our staff members! Doctors have habits of practice which are important to them. Disrupting such habits unnecessarily may interfere with good patient care by that doctor. On the other hand, some practice habits are costly and have no value in improved patient care. We will have only to point this out to reasonable physicians to effect an improvement. As an example, a doctor who habitually keeps a mastoid, cataract, or appendix case in the hospital for a certain number of days *routinely* may often be unnecessarily increasing costs. An awareness here will be all that is necessary in most cases to change such a habit. The doctor will then evaluate each case and discharge each patient when he is ready to be discharged and not simply on the basis of a routine number of days.

To repeat, it should be a duty of the Utilization Committee to remind the staff, at frequent intervals, of the importance of transferring convalescent patients to less expensive long-stay institutions. This again is a matter of practice-habit, and the mechanics of accomplishing such transfers should be made easy and obvious.

It is my firm opinion that the staff of each hospital must go further. It must be observant of insurance programs and insurance agents in its community. It was brought to my attention recently that an insurance agent representing a large aircraft company was directing the employees to insist that they be hospitalized for diagnostic purposes, when the insurance program specifically excluded such service. On inquiry by a physician, this agent stated that it was O.K. to go ahead and that the physician would be paid. One can imagine what this will do to the premium structure at the next bargaining table. Information of this sort helps round out the area picture and pinpoint the cures for overutilization.

Further, each hospital services many large groups of employees. It should be the interest and action of the staff to approach these industries and employee groups to gain their interest and aid in control of over-utilization. Many of you doctors have had the experience of going in to discharge your patient and have him, or her, request an additional day or two stay. The reasons are usually ones of convenience: "My children bother me," "I will be there alone," etc. These patients almost always have insurance coverage. I find if one explains to them what a day or two extra will do to their future premium cost, and point out to them that theirs is a group coverage and prolonged stay on their part is unfair to the rest of the group, most patients will understand this and be very cooperative.

Responsibility for understanding by the patient must be shared by doctors, employers, insurance companies and labor leaders. In the Los Angeles County Medical Association, we have a committee which I started last year as a President's Committee and which I have been allowed to chair this year as the Planning and Research Committee. This committee is made up of doctors of medicine, top insurance executives, hospital executives, top representatives of employers, the Merchants and Manufacturers Association, and labor. Such a committee can attack all the problems of health care and have some chance of success.

Cooperation of the staff, the hospital, the insurance industry, and the patient is a necessity if we are to succeed in this endeavor. Success will be possible when we all recognize and accept the fact that control of hospital costs and the development of adequate health insurance coverage are interrelated and interdependent.

May I appeal to each of you to take the necessary steps to educate and activate your staff. The rewards will be tremendous!

601 S. Prairie Avenue, Inglewood, California 90301.

Health, Insurance, and Pension Plans for Office and Plant Workers in the West, and in the U.S.*

A Report of the Bureau of Research and Planning, California Medical Association

THE ACCOMPANYING table provides information on the percentage of office and plant workers covered by health, insurance, and pension plans 1) in the West, 2) in other regions of the country and 3) in all areas of the United States.

Although the data are not broken down by State, percentage figures shown for the West provide some clue as to the extent of coverage for workers in California.

It is interesting to note the percentage of workers covered in the West for the selected types of benefits indicated below.

Life Insurance—available to:
- 95 per cent of the office workers;
- 91 per cent of the plant workers.

Hospitalization—available to:
- 85 per cent of the office workers;
- 91 per cent of the plant workers.

Surgical Expense—available to:
- 85 per cent of the office workers;
- 91 per cent of the plant workers.

Medical Expense—available to:
- 74 per cent of the office workers;
- 82 per cent of the plant workers.

A 1962 survey by the Bureau of Labor Statistics, of 80 labor markets, representing 188 Standard Metropolitan Areas in the United States, reveals information on employee coverage under health, insurance and pension plans.

In the West, as in all areas of the country, better than 9 out of every 10 office and plant workers are covered by life insurance plans.

Health care benefits rank second among supplementary benefits provided in the West and for all areas of the country. Better than four out of every five workers are covered for hospitalization and surgical expenses in the West; from 75 to 80 per cent are covered for medical expenses, and 40 to 60 per cent are covered by catastrophe or major medical expense.

Accidental death and dismemberment benefits rank third for plant workers and fifth for office workers.

Retirement pension plans cover 78 per cent of the office workers in the West, and 70 per cent of the plant workers.

Only one per cent of all office workers, and two per cent of all plant workers in the West have no health, insurance, or pension plans. For the United States, these percentages are one and three, respectively.

The data for the Western region cover 11 States; it can be assumed from studies previously made that the proportions of workers covered in California will be higher than those presented above, for several categories of plans.

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*Monthly Labor Review, pp. 293-299, March 1963.

TABLE 1.—*Health, Insurance, and Pension Plans* for Office and Plant Workers in Metropolitan Areas, by Type of Plan, Industry Division, and Region, 1961-62*

Per cent distribution

Type of plan* and class of worker	All areas	Industry division						Region			
		Manufacturing	Public utilities	Wholesale trade	Retail trade	Finance	Services	Northeast	South	North Central	West
OFFICE WORKERS											
Insurance plans:											
Life	95	97	92	93	87	98	83	95	93	95	95
Accidental death and dismemberment	55	64	52	58	45	47	43	49	51	58	65
Hospitalization	84	90	67	84	82	87	68	81	83	87	85
Surgical	83	90	66	81	79	85	66	79	82	86	85
Medical	66	72	58	66	46	69	49	63	56	69	74
Catastrophe	55	45	71	47	41	71	41	54	57	52	63
Sickness and accident insurance and/or sick leave	80	88	82	77	83	71	68	84	71	82	79
Sickness and accident insurance	40	62	23	42	40	19	28	39	33	51	28
Sick leave:											
Full pay and no waiting period	59	62	58	57	33	66	53	71	49	50	63
Partial pay or waiting period	7	5	18	5	27	1	4	4	10	9	8
Retirement pension plan	78	82	70	69	63	88	53	81	72	78	78
No health, insurance, or pension plan	1	1	....	2	3	....	5	1	2	1	1
PLANT WORKERS											
Insurance plans:											
Life	91	94	91	90	84	....	75	92	85	94	91
Accidental death and dismemberment	56	60	53	61	46	....	46	51	47	62	71
Hospitalization	88	94	72	86	79	....	74	88	81	90	91
Surgical	86	93	70	83	76	....	71	85	80	89	91
Medical	63	67	59	63	50	....	53	60	44	69	82
Catastrophe	26	23	59	32	23	....	11	21	30	24	40
Sickness and accident insurance and/or sick leave	80	85	73	75	75	....	55	82	67	90	70
Sickness and accident insurance	64	77	32	49	45	....	45	69	49	78	41
Sick leave:											
Full pay and no waiting period	15	9	29	34	24	....	14	14	17	9	29
Partial pay or waiting period	11	7	26	10	19	....	6	8	12	11	16
Retirement pension plan	68	74	72	62	57	....	29	73	55	71	70
No health, insurance, or pension plan	3	2	1	4	5	....	16	2	7	2	2

*Includes those plans for which at least a part of the cost is borne by the employer, except legal requirements such as workmen's compensation, social security, railroad retirement, and compulsory temporary disability insurance required in New York and New Jersey.

Catastrophe (major medical)—available to:

63 per cent of the office workers;
40 per cent of the plant workers.

Retirement Pensions—available to:

78 per cent of the office workers;
70 per cent of the plant workers.

Only one per cent of the office workers, and two per cent of the plant workers, surveyed in the West had neither health, insurance, nor pension plan.

It should be noted that the foregoing data apply to a sample of *all* workers, whether or not covered by collective bargaining agreements. A 1961 study by the California State Department of Industrial Relations† revealed that 91 per cent of all workers under collective bargaining agreements in the State were covered by health and welfare plans. A more detailed breakdown by type of benefit, similar to that of BLS, is not available.

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†Communication dated January 11, 1962.
693 Sutter Street, San Francisco, California 94102.

NEWS & NOTES

NATIONAL · STATE · COUNTY

LOS ANGELES

James E. Lewis, a sophomore at the University of California at Los Angeles School of Medicine, is one of the ten outstanding medical students in the nation who have been awarded the 1964 **SAMA-Sears Preceptor-Scholarships,** it was announced by Russell F. Staudacher, executive director of the Student American Medical Association. Winners of the scholarships will spend two months during this spring, summer or fall working under the supervision of practicing physicians in rural communities throughout the nation. Mr. Lewis' preceptor will be Dr. Charles Moore, Jr., Martinsville, Illinois, with whom he will serve from June 15 to August.

* * *

Opening of the third annual **Rorer Prize Essay** contest for papers on original **research in gastroenterology** has been announced by the Southern California Society of Gastroenterology. Two prizes are offered, one of $350 and one of $150. Eligibility is limited to physicians from the Southern California area, and the age of the principal author may not exceed 41 years. The deadline for submitting papers is August 1, 1964. Further information may be obtained from Dr. Newlin Hastings, secretary-treasurer, 1136 West Sixth Street, Los Angeles 90017.

* * *

Don E. Rosenthal, administrative director of the Forty First Medical Society since early 1961, will become assistant to the Los Angeles County Medical Association's executive director, Rueben M. Dalbec, June 1.

SAN DIEGO

Dr. Charles P. Hyslop of San Diego has been elected president and secretary of the San Diego County Radiological Society.

SAN FRANCISCO

Dr. Malcolm S. M. Watts, assistant dean at University of California School of Medicine, was installed as president of the American Society of Internal Medicine and **Dr. Clyde C. Greene, Jr.,** general medical director of Pacific Telephone & Telegraph Company, as secretary-treasurer at the Association's annual meeting in Atlantic City last month.

* * *

At the fourteenth annual meeting of the **California Society of Plastic Surgeons** held at the Ojai Valley Inn, April 9-11, 1964, the following were elected officers for the coming year: Dr. E. Horace Klabunde, San Francisco, president; Dr. Allyn J. McDowell, North Hollywood, president-elect; Dr. Charles F. Steiss, San Francisco, vice-president; and Dr. William J. Morris, San Francisco, secretary-treasurer.

JUDICIAL REVIEW

Hospital medical staffs will be asked to establish judicial review committees to consider cases of denial or curtailment of staff membership as a result of action taken by the Council of the California Medical Association this month.

This concept of an experienced medical committee being set up solely to give individual physicians a hearing on staff disciplinary or exclusion actions will be incorporated into the existing Guiding Principles for Physician-Hospital Relationships.

The Council stressed that this would be in addition to rights of appeal already provided for in hospital medical staff by-laws and hospital regulations.

BILL TOBITT DIES

William C. (Bill) Tobitt of the Bureau on Communications of the California Medical Association died suddenly of heart disease in Long Beach May 12. Stricken at a meeting there in the afternoon, he was taken immediately to a hospital, where he died a few hours later.

A newsman and then a public relations counselor for more than half his 56 years, Bill had been with the CMA for four years in the San Francisco office. Among newspapermen who dealt with him, he was known as a newspaperman's public relations man—a reliable source for answers to their questions about newsworthy business of the medical association.

Surviving members of his family are his wife, Evelyn, of San Francisco, a son, Tad, who is a senior student at University of Pacific, and a sister, Mrs. Rollen Waterson, of Snowshoe Springs, Calaveras County.

SANTA CLARA

Carl Heintze, science writer for the San Jose *Mercury-News,* will work side by side with a scientist in a medical research laboratory this summer under a fellowship granted by the National Tuberculosis Association. Mr. Heintze **will assume the role of a medical student** for two weeks of his summer vacation, working with Giles F. Filley, M.D., in his pulmonary function laboratory at the University of Colorado Medical Center, Denver. Dr. Filley is associate professor of medicine at the Colorado university and a pulmonary physiologist with particular interest in the breathing problems of patients with emphysema.

* * *

Dr. Charles L. Ianne, San Jose, was awarded the California Medal for distinguished contribution to the control of tuberculosis at the annual meeting of the California Tuberculosis Society in Los Angeles.

* * *

Dr. William C. Dement, associate professor of psychiatry at Stanford University School of Medicine, has received the $1,500 Hofheimer Prize for outstanding research accomplishment in psychiatry. Announcement of the award was made by the American Psychiatric Association.

* * *

Dr. Don D. Jackson, director of the Mental Research Institute of the Palo Alto Medical Research Foundation, will receive the first annual Institute of Pennsylvania Hospital Award, according to an announcement from the American Psychiatric Association.

Dr. Jackson was cited as "an individual who has made an outstanding contribution in the field of psychiatric patient care."

The award, a certificate and $1,000, was established as a tribute to the late Dr. Edward A. Strecker, a former president of the American Psychiatric Association and professor and head of the department of psychiatry at University of Pennsylvania Hospital.

EDUCATION NOTICES

MEETINGS AND COURSES

COMMITTEE ON CONTINUING MEDICAL EDUCATION

THIS BULLETIN of the dates of continuing education programs and the meetings of various medical organizations in California is supplied by the Committee on Continuing Medical Education of the California Medical Association. In order that they may be listed here, please send communications relating to your future meetings or postgraduate courses to Committee on Continuing Medical Education, California Medical Association, 693 Sutter Street, San Francisco, California 94102.

MEDICAL MEETINGS

MAY MEETINGS

May 18—**Cancer Symposium.** Sponsored by the Education Committee of the American Cancer Society in Stanislaus County. Monday. Afternoon meeting: 2:00 p.m. at the Modesto Irrigation District Building, Modesto. Dinner meeting: 7:15 p.m. at the Hotel Covell Restaurant. Contact: Howard L. Kuhl, M.D., chairman, McHenry Village Medical Center, 1700 McHenry Village Way, Modesto.

May 20—**The Annual Symposium of the Medical Staff of Memorial Hospital of Long Beach.** Wednesday. Memorial Hospital, 2801 Atlantic Avenue, Long Beach. Contact: George X. Trimble, M.D., symposium secretary, Memorial Hospital of Long Beach.

May 23—**Ventura General Hospital Medical Staff.** Third Annual Medical Seminar. General Hospital, Ventura. 8:00 a.m. - 4:30 p.m. Contact: R. A. Blossom, M.D., Director of Laboratories.

May 29-31 — **California Society of Anesthesiologists.** First Social-Scientific Meeting. "Ventilation—with emphasis on intermittent positive pressure breathing." Riviera Hotel, Palm Springs. $15. Contact: Mr. Norman Catron, executive secretary, 39 North San Mateo Drive, San Mateo.

JUNE MEETINGS

June 10—**Los Angeles Radiological Society.** Los Angeles. Wednesday. Contact: Bernard J. O'Loughlin, M.D., executive secretary, Department of Radiology, UCLA Center for Health Sciences, Los Angeles 90024.

June 13—**Golden Gate Psychotherapy Society.** The Seventh Annual Scientific Conference and Institute. Millberry Union, University of California Medical Center, Parnassus and Arguello Streets, San Francisco. Saturday. 9:30 a.m.-4:00 p.m. Contact: F. H. Ernst, M.D., program chairman, 408 Tennessee Street, Vallejo.

June 17-20 — **Society of Nuclear Medicine.** Berkeley. Wednesday-Saturday. Contact: S. N. Turiel, executive secretary, 333 North Michigan, Chicago 60601.

June 18-19 — **American Rheumatism Association.** St. Francis Hotel, San Francisco. Thursday-Friday. Contact: Gerard W. Speyer, executive secretary, 10 Columbus Circle, New York 19.

June 18-20 — **Endocrine Society.** Sheraton-Palace Hotel, San Francisco. Thursday-Saturday. Contact: Henry H. Turner, M.D., secretary, 200 North Walker, Oklahoma City.

June 18-21—**American Therapeutic Society**—St. Francis Hotel, San Francisco. Thursday-Sunday. Contact: Oscar B. Hunter, Jr., M.D., secretary, 915 19th Street NW, Washington 6, D.C.

June 18-22—**American College of Chest Physicians.** Jack Tar Hotel, San Francisco. Thursday-Monday. Contact: Murray Kornfield, executive director, 112 East Chestnut, Chicago 60611.

June 19-20 — **American Geriatrics Society.** Sir Francis Drake Hotel, San Francisco. Friday-Saturday. Contact: Edward B. Allen, M.D., secretary, 10 Columbus Circle, New York 19.

June 20—**Academy of Tuberculosis Physicians.** California Hotel, San Francisco. Saturday. Contact: George P. Bailey, M.D., secretary, 1295 Clermont, Denver 20.

June 20—**American Association for Study of Headache.** San Francisco. Saturday. Contact: Lester S. Blumenthal, M.D., secretary, 5315 Connecticut Avenue NW, Washington 15, D.C.

June 21-25 — **American Medical Association.** Fairmont and Mark Hopkins hotels and Civic Auditorium, San Francisco. Sunday-Thursday. Contact: F. J. L. Blasingame, M.D., vice-president, 535 North Dearborn, Chicago 60610.

June 21—**The 6th Annual Preconvention Session on School Health.** Sponsored by American Medical Association and American School Health Association. Golden Gate Room, Del Webb's Towne House, San Francisco. Sunday, 7:30 p.m. Contact: Wallace Ann Wesley, Hs. D., assistant director, Department of Community Health and Health Education, American Medical Association, 535 North Dearborn, Chicago.

June 21—**Society for Surgery of the Alimentary Tract.** San Francisco. Sunday. Contact: Robert Turell, M.D., executive secretary, 25 East 83rd Street, New York 28.

June 21—**Society for Vascular Surgery.** San Francisco. Sunday. Contact: George H. Yeager, M.D., secretary, 314 Medical Arts Building, Baltimore 1.

June 21-23 — **Society for Investigative Dermatology.** Sheraton-Palace Hotel, San Francisco. Sunday-Tuesday. Contact: Herman Beerman, M.D., secretary-treasurer, 255 South 17th Street, Philadelphia 3.

June 21-25—**Women's Auxiliary to the American Medical Association.** St. Francis Hotel, San Francisco. Sunday-Thursday. Contact: Margaret N. Wolfe, executive secretary, 535 North Dearborn, Chicago 60610.

June 22-24 — **American Laryngological, Rhinological and Otological Society.** San Francisco. Monday-Wednesday. Contact: Victor R. Alfaro, M.D., secretary, 917 20th Street NW, Washington, D.C.

June 22-24—**Association for Research in Ophthalmology.** San Francisco. Monday-Wednesday. Contact: Herbert Kaufman, M.D., executive secretary, c/o Hillis Miller Health Center, Gainesville, Florida.

June 26-July 1 — **Second Hawaii Medical Seminar.** Sponsored by Hawaii Medical Association. Honolulu, Hawaii. Friday-Wednesday. Contact: Lee McCaslin, executive secretary, Hawaii Medical Association, 510 South Beretania Street, Room 200, Honolulu 13, Hawaii.

AUGUST MEETING

August 11-14—**American Society for Pharmacology and Experimental Therapeutics.** San Francisco. Tuesday-Friday. Contact: H. George Mandel, secretary, George Washington University School of Medicine, Washington 4, D.C.

SEPTEMBER MEETING

September 24-26—**American College of Obstetricians and Gynecologists** (District 8). San Diego. Thursday-Saturday. Contact: Donald F. Richardson, executive director, 79 West Monroe, Chicago 3.

OCTOBER MEETINGS

October 8-10—**The American College of Physicians Fall Sectional Meeting.** Contact: Edward C. Rosenow, Jr., M.D., executive director, The American College of Physicians, 4200 Pine Street, Philadelphia 4, Pennsylvania.

October 11-16—**American Society of Plastic and Reconstructive Surgeons.** Fairmont Hotel, San Francisco. Sunday-Friday. Contact: Paul P. Pickering, M.D., executive secretary, 2850 Sixth Avenue, Suite B, Lower Level, San Diego.

October 16-17—**Western Industrial Medical Association.** Biltmore Hotel, Los Angeles. Friday-Saturday. Contact: Christine Einart, M.D., executive secretary, 2151 Berkeley Way, Berkeley 4.

FUTURE MEETINGS

November 4-7—**61st Annual Meeting of Nevada State Medical Association and 13th Annual Conference of Reno Surgical Society—Joint Meeting.** Reno.

November 12-15—**San Diego Chapter of the California Academy of General Practice Ninth Scientific Symposium.** Las Vegas.

POSTGRADUATE EDUCATION

AUDIO-DIGEST FOUNDATION

Audio-Digest Foundation (a non-profit subsidary of the California Medical Association) provides by subscription twice-a-month tape-recorded summaries of leading national meetings and authoritative surveys of current literature. Seven separate services in: General Practice, Surgery, Internal Medicine, Obstetrics-Gynecology, Pediatrics, Anesthesiology, and Ophthalmology. A new Catalog of outstanding lectures and panel discussions in all areas of medical practice is also available. For information, write: Mr. Claron L. Oakley, Editor, 619 South Westlake Avenue, Los Angeles.

UNIVERSITY OF CALIFORNIA AT LOS ANGELES

May 16—**Management of Medical Emergencies.** Saturday. 6 hours.*

May 17—**Management of Pediatric Emergencies.** Sunday. 6 hours*

June 20-21—**Surgery of the Hand.** Saturday-Sunday. 12 hours.*

July 1-5—**Seminars for General Practitioners.** University of California Residential Conference Center, Lake Arrowhead. Wednesday-Sunday. $100 plus room and board.†

July 5-8—**Advanced Seminars in Pediatrics.** University of California Residential Conference Center, Lake Arrowhead. Sunday-Wednesday. $100 plus room and board.†

July 12-15—**Advanced Seminars on the Clinical Application of Immunology.** University of California Residential Conference Center, Lake Arrowhead. Sunday-Wednesday. $100 plus room and board.†

August 7-9 — **Controversial Areas in Anesthesiology.** Friday-Sunday. 18 hours.*

August 9-12—**Advanced Seminars in Internal Medicine.** University of California Residential Conference Center, Lake Arrowhead. Wednesday-Sunday. $100 plus room and board.†

August 20-22—**Progress in Obstetrics.** Thursday-Saturday. 18 hours.*

August 23-26—**Seminars on Medical Teaching.** University of California Residential Conference Center, Lake Arrowhead. Sunday-Wednesday. No fee.†

October 16-November 6—**Postgraduate Medical Lecture Series in Australia and New Zealand.** Monday-Friday. 32 hours. $200.

Dates by Arrangement—**Clinical Traineeship**—Anatomy, Anesthesia, Dermatology, Pediatrics, Radioisotopes, Urology: 2 weeks, $150; 4 weeks, $250. Minimum period, 2 weeks.

For information on courses for physicians or ancillary personnel, contact: Thomas H. Sternberg, M.D., Assistant Dean and Head, Department of Continuing Education in Medicine and Health Sciences, U.C.L.A. Medical Center, Los Angeles 24, 478-9711, Ext. 2114.

LOMA LINDA UNIVERSITY

As Arranged—**Traineeships** in clinical and other departments are available by arrangement with department chairmen of the Postgraduate Division. 80 hours minimum.

Anesthesia, 6 months. 250-300 hours. $350.

Pulmonary Diseases—can be arranged.

Continuously—**Illustrated Medical Lectures:** 30-minute tape recordings and accompanying 35-mm filmstrip, 50 to 80 full-color pictures for screen, hand or desk viewer. Available individually or by subscription. 12 or 36 titles per year, all titles produced in one year in any chosen specialty. Projectors and viewers included in subscription plans. Contact: Loma Linda University, Illustrated Medical Lectures, Los Angeles 33.

For course information contact: W. F. Norwood, Ph.D., Assistant Dean and Chairman, Division of Continuing Education, Loma Linda University School of Medicine, 1720 Brooklyn Ave., Los Angeles, California 90033, ANgelus 9-7241, Ext. 214.

UNIVERSITY OF CALIFORNIA, SAN FRANCISCO

May 22-23—**Diseases of Muscle.** Friday-Saturday. 6 hours. $40.

May 24—**Heart Association of the Redwood Empire.** Brooktrails Lodge, Willits. Sunday. 8 hours. $20.

June 19-20—**Epilepsy—United Cerebral Palsy.** Friday-Saturday.

Continuously—Courses presented by special arrangement: Principles and Clinical Uses of Radioisotopes (full time, one to three months).

For information on courses for physicians or ancillary personnel, contact: Seymour M. Farber, M.D., Assistant Dean, Dept. of Continuing Education in Medicine and Health Sciences, University of California Medical Center, Room 565-U, San Francisco 22, MOntrose 4-3600, Ext. 179.

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*Fee to be announced.

†Hours to be announced.

UNIVERSITY OF SOUTHERN CALIFORNIA

April 9-June 11—**Ward Walks in Rare Diseases.** Thursdays. 2 hours weekly. $100.

May 31-June 30—**Third Annual Medical Tours of Europe.** $250.

June 26-28—**Demonstrations of Newer Techniques in Immunopathology.** Friday-Sunday. Three half days—12 hours. $50.

June 26-28—**Newer Aspects and Demonstration Techniques in Electron Microscopy.** Friday-Sunday. Three half days—12 hours. $50.

June 29-July 1—**Treatment of Fractures.** Los Angeles County Hospital, 1200 North State Street, Los Angeles. Wednesday-Friday. 8 hours. $75.

Aug. 1-12—**Seventh Annual Postgraduate Refresher Course in Hawaii.** $100.

October 18-November 9 — **Medical Centers of South America.** 36 hours. $210.

Continuously—**Basic Home Course in Electrocardiography.** One year postgraduate series, ECG interpretation by mail. Fifty-two issues $100. Physicians may register at any time.

Continuously—**Advanced Home Course in Electrocardiography.** One year postgraduate series, ECG interpretation by mail. Fifty-two issues $85. Physicians may register at any time.

For course information contact: Phil R. Manning, M.D., Assoc. Dean, Postgraduate Division, USC School of Medicine, 2025 Zonal Ave., Los Angeles 90033, CApital 5-1511, Ext. 300.

CALIFORNIA MEDICAL ASSOCIATION

Committee on Continuing Medical Education

14th Annual Postgraduate Institutes, 1964

June 25-27—**SACRAMENTO VALLEY COUNTIES,** in cooperation with USC School of Medicine. **Renal Disease.** Harvey's Wagon Wheel, Lake Tahoe. Chairman: William Tucker, M.D., 3560 "Jay" Street, Sacramento.

For information regarding Postgraduate Institutes and Circuit Courses, contact: Continuing Medical Education, California Medical Association, 693 Sutter Street, San Francisco 94102. PRospect 6-9400, Ext. 68.

TO HAVE YOUR MEETING OR PROGRAM LISTED IN CALIFORNIA MEDICINE

FILL OUT AND MAIL THIS BLANK TO THE ADDRESS GIVEN

(COPY MUST BE **RECEIVED** NOT LATER THAN THE **FIFTH OF THE MONTH PRECEDING** ISSUE)

Continuing Medical Education, California Medical Association
693 Sutter Street, San Francisco, California 94102

NAME OF ORGANIZATION____________________

MEETING OR PROGRAM____________________

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DATE____________________TIME__________

PLACE____________________FEE, IF ANY__________

CONTACT FOR INFORMATION:____________________
(give name, title, address)

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THE PHYSICIAN'S *Bookshelf*

PHYSICAL DIAGNOSIS OF HEART DISEASE—Noble O. Fowler, M.D., F.A.C.P., Associate Professor of Medicine, University of Cincinnati College of Medicine, Cincinnati, Ohio. The Macmillan Company, 60 Fifth Avenue, New York 11, 1962. 521 pages, $12.50.

This volume on the physical diagnosis of heart disease is an excellent introduction to the subject by an experienced cardiologist. He writes clearly, and a considerable amount of recent physiological work is incorporated in his clinical discussions. As such, the discussion of physical diagnosis is broadened to include the correlation between the pathological-physiological abnormalities and bedside recognition of various cardiac abnormalities.

Various chapters cover not only the usual cardiac diseases but also a discussion of cardiac arrhythmias, syncope, measurement of the blood pressure, and a comprehensive account of congenital heart disease. Each chapter is concluded by a selected bibliography which, in the main, includes pertinent recent articles. It is of interest that the author throughout the text concedes that the increased scope and complexity of cardiac diagnostic procedures has made good physical diagnosis more, rather than less, important.

A few minor criticisms can be raised. The illustrations of the phono-cardiograms could be improved, although this may be a function of reproduction. The author has a habit of using phrases such as "suggests" and "probably" when a more direct positive statement is indicated. For example, he states that hemorrhages, exudates, and papilledema *suggest* the possibility of accelerated malignant hypertension. Similarly, although he states that at a position of 45° from the horizontal there should be no distention of the neck veins above the level of the manubrium, he goes on to state that if such distention is seen, the venous pressure is *probably* increased. Again, "the presence of a waddling gait with extreme weakness of the lower extremities may *suggest* progressive muscular dystrophy." On page 20, "the presence of such motion (a lifting motion to the left of the sternum) *suggests* right ventricular enlargement." Further, "left ventricular enlargement is *suggested* when the cardiac apex impulse is of thrusting quality." A similar style is used when the author describes the findings of mitral stenosis and states "the murmur . . . in the presence of sinus rhythm often has presystolic accentuation. It is often followed by a loud first sound." The murmur of mitral stenosis in the presence of sinus rhythm almost always shows presystolic accentuation and is followed by a loud first sound unless there is some reason, such as pulmonary hypertension or heavily calcified valve.

In the paragraph on the innocent murmur, the author confuses the reader when he tries to distinguish between physiological murmur and innocent murmur. He states that innocent murmurs are those associated with normal anatomical and physiological conditions and avoids the term "physiological murmur" because it includes murmurs that are associated with acceleration of the circulation. Yet he states that innocent murmurs are common in pregnancy because of the accelerated circulation. Many cardiologists would disagree with the statement of page 53 that the late systolic murmur is usually innocent. Most recent work has shown that this murmur is associated with mitral regurgitation and should not be considered innocent. On page 57, the author states that the location in which the innocent murmur is heard is of no great help. Yet many cardiologists have shown that pansystolic murmurs localized to the cardiac apex or to the aortic area are more apt to be organic than are such murmurs heard solely in the pulmonic area.

The above are relatively minor comments and many represent differences of opinion and should not detract from the overall excellence of the book. The text can be highly recommended to students and physicians interested in obtaining a modern scientific appraisal of the physical diagnosis of heart disease.

Maurice Sokolow, M.D.

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ATLAS OF BILIARY TRACT SURGERY—Frank Glenn, M.D., Lewis Atterbury Stimson Professor of Surgery, Cornell University Medical College; Surgeon-in-Chief, The New York Hospital. Illustrations by Caspar Henselmann. The Macmillan Company, 60 Fifth Avenue, New York 11, Collier-Macmillan Limited, London, 1963. 145 pages, $15.00.

Dr. Glenn has long been known as a world authority and one of the most prolific authors on diseases of the biliary tract. In this extremely comprehensive work on the subject, he has not only covered the usual and the unusual operations performed for biliary tract disease, but also many general aspects of the subject which the surgeon and the physician commonly encounter.

The "atlas" portion of the text is patterned after the format of Cutler and Zollinger's, *Atlas of Surgical Operations.* Excellent illustrations of the multiple surgical steps in the performance of operations ranging from cholecystotomy, to such radical procedures as the Whipple or Longmire operations are explained in a text on the opposite page. Naturally the operative techniques described are those favored by the author, and some of the alternative methods of performing the same operation are not always explained. In general, however, there is very little to criticize, and the atlas should be of great use, not only to those in surgical training, but also to the busy surgeon as a review before he performs the more uncommon operations, such as liver resections and extensive operations for gallbladder carcinoma.

Besides describing the operations on the biliary tract, the author has included other chapters on its history, physiology, differential diagnosis, anesthesia, cholangiography, postoperative considerations, and the temporary conservative management of the poor risk patient. The information contained in these chapters is of the highest quality but suffers from the fact that the type is exceedingly small, as in the Cutler and Zollinger atlas, and hence somewhat difficult to read.

The book, however, is of highest quality and the reviewer feels that it will make a valuable addition to every general surgeon's library.

Fredrick W. Marx, Jr., M.D.

DISABILITY EVALUATION AND PRINCIPLES OF TREATMENT OF COMPENSABLE INJURIES— Sixth Edition, Earl D. McBride, B.S., M.D., F.A.C.S., F.I.C.S., Clinical Professor in Orthopedic Surgery, University of Oklahoma School of Medicine; Attending Orthopedic Surgeon to Baptist Memorial Hospital; Consulting Orthopedic Surgeon to St. Anthony Hospital and Mercy Hospital; Founder and Senior Consulting Orthopedic Surgeon, The Bone and Joint Hospital and McBride Clinic, Oklahoma City, Oklahoma. J. B. Lippincott Company, East Washington Square, Philadelphia 5, Pa., 1963. 573 pages, $22.00.

This is the sixth edition of this particular work on disability evaluation. It is the only book of its kind of any particular value that has been published.

It fulfills a very strong need in many parts of the United States, particularly in those areas which require a mathematical computation of the degree of disability that may result following upon injury or disease.

The tables which Doctor McBride has worked out over an experience of many years are extremely valuable in this regard.

The book, as a whole, does include a number of chapters having to do with recommendations in regard to both treatment and diagnosis. The areas of the book having to do with diagnosis and treatment are not the best feature of the book as a whole.

By reason of legislative changes, the need for disability evaluation determination is becoming an increasing problem to the practitioner of medicine. This book does offer some ready reference in this regard, but it is not yet the final solution. The author has prepared this work over a period of many years of hard effort to resolve primarily the problems that have arisen in workmen's compensation in the geographical area in which he works. The book is of extreme value to any person treating or evaluating disability, the result of injury or disease, where such a mathematical formula is utilized.

In the State of California this is unnecessary and the book would, therefore, have little appeal to anyone treating workmen's compensation insurance cases or the disability that arises therefrom.

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TEXTBOOK OF MEDICINE (Cecil-Loeb)—Edited by Paul B. Beeson, M.D., Ensign Professor of Medicine, Yale University School of Medicine, and Walsh McDermott, M.D., Livingston Farrand Professor of Public Health, Cornell University Medical College. W. B. Saunders Company, West Washington Square, Philadelphia 5, Pa., 1963. 1835 pages, plus index, $19.50 single volume. ($23.50, 2-volume set.)

Every 3 to 4 years since 1927 there has been a new edition of the Cecil-Loeb Textbook of Medicine—and there has yet to be an inferior one.

The authors change—and now the editors change—but the high quality remains. The 11th edition marks the retirement of both Dr. Cecil and Dr. Loeb and the assumption of the editorship by Dr. Paul B. Beeson, Professor of Medicine at Yale University School of Medicine, and Dr. Walsh McDermott, Professor of Public Health at Cornell University Medical College.

The authors and their group of associate editors have attempted to cover the whole subject matter of medicine. Their major achievement is to provide the physician and medical student alike with authoritative information and discrimination in many and diverse fields of medical knowledge. The book is one in which the reader can find mention of almost any disease or syndrome—many are touched only briefly, but selected references allow the reader to go further into any chosen subject.

The subject matter is organized by diseases. Almost every major division has an introductory section: some of these are in short essays characterizing the present status and apparent trends of entire disease fields—such as diseases of the gastrointestinal tract or those caused by bacteria. Others, such as the one on immune mechanisms, represent critical reviews of basic information.

The burgeoning new field of genetic disorders has caused the inclusion of an entire new section with Dr. Alexander G. Bearn as associate editor. Four other sections with associate editors, who have shared the responsibility for major areas of the book, include diseases of the blood (Dr. Carl V. Moore), diseases of the digestive tract (Dr. Marvin H. Sleisenger), endocrine and metabolic diseases (Dr. Philip K. Bondy) and diseases of the nervous system (Dr. Harold G. Wolff). In all there are 173 contributors, 66 of whom are new.

The net result is of necessity a massive volume of almost 2000 pages. It is available in either one or two volume editions. The two volume set is preferable—the single volume being too bulky except to remain on the library table. But the contents within the covers of either the one or two volume set are highly recommended.

EDGAR WAYBURN, M.D.

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COLUMBIA-PRESBYTERIAN THERAPEUTIC TALKS —Topics in Medicine for the Internist and General Physician—edited by Hamilton Southworth, M.D., and Frederick G. Hofmann, Ph.D., College of Physicians and Surgeons, Columbia University and Columbia-Presbyterian Medical Center, New York City. The Macmillan Company, New York, and Collier-Macmillan Limited, London, 1963. 198 pages. (No price quoted.)

This book is a compilation of talks on therapeutics given to the senior and junior medical students of the College of Physicians and Surgeons, Columbia University. The proper selection of drugs based upon pharmacology, physiology and pathology is the major point of emphasis with due attention paid to indications, contraindications, and cautions about side effects.

Thirteen subjects are discussed in this series. They include anticoagulants, management of atrial fibrillation and flutter, cardiac arrest, use of oxygen and aids to ventilation, treatment of resistant bacterial infections, selected aspects of cancer chemotherapy, anthelmintics and amebicides, untoward drug reactions, steroid therapy, sedatives, hypnotics and tranquilizers, oral hypoglycemic agents, management of obesity, and treatment of hypo and hypercalcemic states. Each subject is discussed by authors well experienced in their respective fields. They are physicians who present a pharmacologist basic rationale for each and every therapeutic measure employed.

One drawback to medical texts on therapeutics today is that newer drug methods tend to supplant those recommended yesterday. For example in the chapter on management of cardiac arrhythmia electric countershock is mentioned in an addendum and one must look elsewhere for a further summation.

The review of cardiac resuscitation is exceptionally well done and the chapter on anthelmintic drugs provides a splendid up-to-date coverage of the subject. The various types and dangers of drug reactions and the indications and dangers of steroids are most completely reviewed but not all would agree with Dr. Perera's valuation of ACTH as worthless.

It must be realized that these presentations were prepared for medical students and at times the subject matter appears elementary. However, the correlation is excellent and this reviewer agrees with its authors that generalists and internists will benefit by reading these reviews. The ground covered by a book of this sort is far less, but is done more thoroughly per subject matter presented than the current annual cook book type of therapeutic texts published today.

JULIAN LOVE, M.D.

SLEEP AND WAKEFULNESS—Revised and Enlarged Edition—Nathaniel Kleitman. The University of Chicago Press, 5750 Ellis Avenue, Chicago, Ill., 1963. 552 pages, $12.50.

In the original (1939) edition of this book the author provided an impressive accumulation and review of scientific data which helped to dispel much of the folklore surrounding the subject of sleep. In the present revised edition, the author in an imaginative yet comprehensive manner, combines the recent findings of workers in the field with past work to modify his views regarding a basic rest-activity cycle, separation of the concept of consciousness from that of wakefulness and evolutionary changes in sleep and wakefulness.

The first section is concerned with the differences between sleep and wakefulness. In the chapter on brain potentials, the establishment of a short-term basic rest-activity periodicity in animals and man is discussed as are other advances made by recording spontaneous and evoked electrical changes in the CNS. This provides a lucid background for the next part of the book which deals with the course of events during sleep. Of particular interest here is the chapter on dreaming which deals with the recent wealth of knowledge obtained after the author's discovery of the relationship between rapid eye movements and dreaming.

Other parts of the book discuss states resembling sleep such as hypnosis and hibernation; and influencing sleep through pharmacological and hygienic measures. The sections on the development and maintenance of a 24 hour sleep-wakefulness rhythm and experimental interference with this rhythm lead up to the author's modification of his evolutionary theory of sleep and wakefulness. In discussing the necessity for a maturing and functioning cortex, he incorporates knowledge regarding the ascending reticular activating system and diffuse thalamic projection system and the short-term rest-activity cycle.

The book is complete and concise and is welcome in an area of study which has mushroomed in the last decade. The bibliography contains over 4300 references pertaining to all the significant work in the field and is invaluable to future researchers. While it is of greatest help to those engaged in research in this area, it also provides an excellent framework for anyone generally interested in the topic.

Anthony Kales, M.D.

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GENERAL PRINCIPLES OF BLOOD TRANSFUSION—Prepared by the Subcommittee on Transfusion Problems, Division of Medical Sciences, National Academy of Sciences—National Research Council. J. B. Lippincott Company, East Washington Square, Philadelphia 5, Pa., 1963. 40 pages, $2.00.

This short monograph by acknowledged leaders in the field should be required reading for every medical student, house officer and practicing physician. It properly points out the dangers of blood transfusion and the limited availability of blood, making clear the indications for transfusions and the appropriate blood fractions to be used in various situations. Minimal serologic standards are outlined, and legal implications of transfusion therapy are considered.

As one would anticipate, an attempt to provide guidance by simplified and dogmatic statements in a field where knowledge is rapidly advancing leads to statements which other workers in the field may have trouble accepting. Such statements are remarkably few, but the implication that fibrinogen is unstable in routine bank blood is hardly true; and the data given on the duration of effectiveness of transfused clotting factors is excessively vague, occasionally erroneous, and not completely up-to-date.

This booklet appeared originally as part of an issue of *Transfusion*, the official journal of the American Association of Blood Banks. The separated bound monograph has newly numbered pages, but regrettably all references within the text to other sections still carry the page numbers of the original journal printing.

Despite these objections, this booklet belongs in the library of every medical school and hospital, no matter how small.

Herbert A. Perkins, M.D.

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CURRENT PEDIATRIC THERAPY—Sydney S. Gellis, M.D., Professor of Pediatrics and Chairman of the Department of Pediatrics, Boston University School of Medicine; Director of Pediatrics, Boston City Hospital; and Benjamin M. Kagan, M.D., Director, Department of Pediatrics, Cedars of Lebanon Hospital, Los Angeles; Clinical Professor of Pediatrics, University of California, Los Angeles. W. B. Saunders Company, Philadelphia & London, 1964. 747 pages, $16.00.

This book is one in which each of 240 contributors, all authorities in some special phase of pediatric care, details his personal ideas concerning the treatment of sick infants and children.

Diagnosis and etiology are assumed to be already known, the questions addressed to each of the contributors is how best to plan treatment in detail.

This purpose is admirably accomplished. Almost all disorders a physician will be called upon to care for are discussed. Any physician who encounters a broad variety of childhood illness will find this a practical, useful and reliable therapeutic guide.

William C. Deamer, M.D.

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ADVANCES IN BIOLOGY OF SKIN: Vol. IV, The Sebaceous Glands. Proceedings of the Brown University Symposium on the Biology of Skin, 1962.—Edited by William Montagna, Richard A. Ellis, and Alene F. Silver. Arnold Biological Laboratory, Brown University, Providence 12, Rhode Island. This is distributed by The Macmillan Company, New York, pursuant to a special arrangement with Pergamon Press Limited, Oxford, England. 260 pages, $12.50, 1963.

In fourteen articles, most of which were presented in a symposium held at Brown University in 1962, this book gives an informative summary of present-day knowledge of the sebaceous gland and skin surface lipids. The embryology, anatomy, and physiology of the glands are thoroughly discussed and a detailed (if somewhat dated) analysis of the sebum and skin surface lipids is given. The chapters on ultrastructure and hormonal control of the sebaceous glands were particularly interesting in that they represent one of the clearest attempts to separate facts from theory.

Like most collections of work by different experts, this book suffers somewhat from a lack of continuity and integration. All in all, it is an interesting but mainly biologically oriented book.

Jacques Hochglaube, M.D.

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FUNCTIONAL PATHOLOGY OF DISEASE—The Physiologic Basis of Clinical Medicine—Second Edition, edited by Arthur Grollman, M.D., Ph.D., F.A.C.P., Professor and Chairman of the Department of Experimental Medicine, University of Texas Southwestern Medical School, Dallas. The Blakiston Division, McGraw-Hill Book Company, Inc., 330 West 42nd Street, New York, N.Y., 1963. 979 pages, $15.00.

Dr. Grollman's preface to his first edition announced that the volume was intended to fill the gap between physiology and clinical medicine, particularly for medical students. In some respects, the volume is, indeed, a sturdy bridge. The chapters on pulmonary physiology, cardiovascular physiology and intermediary metabolism are well written, complete and oriented to clinical problems. Twenty six collaborators have helped Dr. Grollman prepare the 32 chapters in this book and, consequently, most are written by authoritative experts in the field. The editor himself may have attempted too much, since several of the chapters he has contributed, particularly those in metabolic diseases, blood and blood forming tissues and "autoimmune" disorders, are not up to the quality he establishes in his discussion of hypertension.

Physicians and medical students desiring an interpretation of the physiology of the circulation, respiration, general metabolism and the endocrines applicable to clinical status will find the book useful. Although an attempt has been made to embrace the physiologic and chemical basis of most human diseases, this has not been fully achieved. The book cannot be regarded as a complete reference work in physiology.

GILDON N. BEALL, M.D.

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BLOOD DISEASES—M. A. Atamer, M.D., former Research Associate, Hematologist, Rockefeller Institute, New York; Senior Research Investigator, New York University; Director, Section of Hematology, Department of Medicine, Grasslands Hospital. Grune & Stratton, Inc., 381 Park Avenue South, New York 16, N.Y., 1963. 616 pages, $16.50.

This book, primarily intended for the medical student and practicing physician, stresses the clinical aspects of hematologic disorders. However, each chapter also contains a section on the pathology and physiology of these disorders, with special reference to the individual observations and work of numerous investigators. At the end of most chapters there are charts and tables with quantitative information on the incidence of signs, symptoms, lab findings, treatment and prognosis in each disease; these were compiled from an analysis of 18,000 cases reported in the literature.

For the physician, this book will be useful in providing quick reviews of case reports, and of some current concepts in hematology, especially in some of the more recently emphasized syndromes such as pyridoxine responsive anemias, Fanconi's anemia and thrombotic thrombocytopenic purpura. For the medical student, however, terms are often insufficiently defined and value is diminished by the fact this is more in the nature of a review than a text. The chief value of this book is the extensive review of the literature and bibliography which the author has compiled. This will be helpful to all physicians in finding source material, and in evaluating their own experience in the light of what has been reported in the literature.

* * *

ATLAS OF BONE TUMORS—including tumorlike lesions—W. S. Gilmer, Jr., M.D., F.C.A.P., Visiting Lecturer in Pathology, University of North Carolina, Chapel Hill, N.C.; Pathologist to the Cape Fear Valley Hospital, Fayetteville, N.C.; formerly Associate Professor of Pathology, University of Tennessee, Memphis, Tenn., and Pathologist to Willis C. Campbell Clinic and Hospital, Memphis, Tenn.; G. B. Higley, Jr., M.D., Memphis, Tenn; and W. E. Kilgore, M.D., Memphis, Tenn. The C. V. Mosby Company, 3207 Washington Boulevard, St. Louis 3, Mo., 1963. 165 pages, $27.50.

This atlas, made colorful by ever so many color plates, was produced at the requests of orthopedic resident physicians at one of America's finest orthopedic clinics—the Campbell Clinic of Memphis, Tennessee. However, usefulness of the atlas is by no means limited to orthopedists.

Some will regret that the price of this relatively small treatise is so high. Unfortunately the reproduction of color is a costly process.

Color adds to the value of the book, particularly in the portrayal of many gross specimens. Physical qualities of the book are excellent.

As is true of most atlases, this atlas generally gives the reader less information than he seeks, particularly in the areas of differential diagnosis, and therapy. The authors, in their preface, concede that "the text is brief," and "omissions apparent."

The appendix includes an instructive breakdown of 220 consecutive destructive bone lesions, exclusive of metabolic diseases and infections.

This Atlas of Bone Tumors well deserves to take its place alongside the other treatises on bone tumors, published in recent years.

* * *

DISEASES OF THE SKIN FOR PRACTITIONERS AND STUDENTS—Fifth Edition—George Clinton Andrews, M.D., F.A.C.P., Clinical Professor of Dermatology (retired), and Anthony N. Domonkos, M.D., F.A.C.P., Associate Clinical Professor of Dermatology. College of Physicians and Surgeons, Columbia University, W. B. Saunders Company, Philadelphia, 1963. 749 pages, 605 illustrations, $16.50.

Revisions of standard texts in dermatology have lagged behind medical progress in recent years. Not so with this book. The Fifth Edition of this "standard" text is a remarkable effort by these two authors at a time when multiple authorship of texts is common.

The authors have wisely grouped skin diseases into chapters based on etiologic and pathologic relations rather than on morphologic similarities. There is no chapter on papulosquamous diseases, but seborrheic dermatitis and psoriasis are considered together as are parapsoriasis, pityriasis rosea, and pityriasis rubra pilaris. In addition to the classic disorders, one can find discussion of such varied disorders as "H" disease, Aldrich's syndrome, and eruptions due to the newer drugs. The section on radiation physics and radiation therapy is excellent.

Fault can only be found in the suggestions for therapy, which in certain instances are archaic and at times amusing; as an example, colonic irrigations for chronic urticaria. Heavy dosage of B Complex vitamins and parenteral vitamin B_{12} is not, in my opinion, indicated in disorders not associated with deficiencies of these vitamins.

The bibliography at the end of each chapter is well selected. The index has been carefully compiled. This text should be a welcome addition to the library of the practitioner interested in diseases of the skin and to the specialist.

ROBERT J. ROTH, M.D.

* * *

THE EMG—A GUIDE AND ATLAS FOR PRACTICAL ELECTROMYOGRAPHY—with 42 illustrations—Forbes H. Norris, Jr., M.D., Associate Professor of Neurology and Acting Chairman of the Neurology Division, Department of Medicine, University of Rochester; Senior Associate Physician, Strong Memorial Hospital, Rochester, New York; with an introduction by G. Milton Shy, M.D., Professor and Chairman, Department of Neurology, University of Pennsylvania. Grune & Stratton, Inc., 381 Park Avenue South, New York 16, N.Y., 1963. 134 pages, $4.75.

Clinical and laboratory research interest in neuromuscular disorders has been rapidly increasing during the last decade. The electromyogram as a clinical and laboratory research tool has been finding its place and has helped considerably in furthering an understanding of neuromuscular mechanisms in health and in disease. Dr. Norris has been active in this field during this time and this small book is an excellent introduction to this field of electromyography. It deals with the history and principles of electromyography, gives an introduction to instrumentation and is a technical guide to the beginner in electromyography. It also clearly reveals the value and place of electromyography in clinical investigation and diagnosis. This is indeed a useful, practical guide to any student interested in electromyography, or to the neurologist who needs a simple and clear understanding of the underlying principles and the facts EMG can reveal and their interpretation, and to the physician who requests EMG tests and wants to know more about the basis for the electromyographer's conclusion rather than be satisfied with the conclusion given as an opinion in an electromyographic report.

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New Deathtrap Reported For Toddlers

Children, gasoline and gas water heaters are a highly dangerous combination and should not be put in the same room together, a physician warned.

Four utility room fires in which five children were burned severely or fatally were described by Dr. John B. Blalock, New Orleans, in the March 28 *Journal of the American Medical Association.*

"In every case the children were playing unattended in the utility room of their homes, in which there was a gas water heater and a container of gasoline for use in a power lawn mower," he said. "The children were engulfed in flames when they overturned the container of gasoline, which soon ignited from the water heater."

Of the five victims, all boys, aged 2 and 3, only two survived.

"The ever-increasing popularity of power lawn mowers, the quest for more and more powerful gasoline, and the compact type of housing which most young couples with small children can afford make the potential for such accidents easily understandable," Dr. Blalock commented.

"The only controllable factors would seem to be a constant awareness by parents of the dangers of highly flammable solutions in the home, and, if such is possible, an explosion-proof or leak-proof container for gasoline."

Epilepsy Not Related To Criminal Behavior

An epileptic is no more a potential murderer than the so-called normal individual, Dr. Samuel Livingston, Baltimore, said in an editorial in the April 13 *Journal of the American Medical Association.*

The impression that epilepsy was related to murder and crimes of passion which might have been gained from the Jack Ruby trial also was refuted in a letter signed by five expert witnesses published in the *Journal.*

"To my knowledge, there are no reports in the current medical literature which prove that there is a higher rate of criminal action among epileptics than among other individuals," Dr. Livingston said.

"Based on my 27 years of specializing in the treatment, study, and contact with the course of living of some 15,000 epileptic patients on every social level, I can state positively that the instance of crimes committed by these patients was no greater than—even showed no difference from—that in a similar number of nonepileptics."

Dr. Livingston pointed out that about 1 in 100 persons suffer epilepsy, more than the number of persons with diabetes or tuberculosis. The epileptic, he added, like the person with tuberculosis or poliomyelitis has a better chance than ever before of

(Continued on Page 41)

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Epilepsy Not Related To Criminal Behavior

(Continued from Page 38)

recovering and living normally, with good medical care and understanding from his associates.

Dr. Livingston also expressed regret that the association of epilepsy with Ruby would set back public acceptance of epilepsy as a physical, not a mental, disability, and as a physical handicap, not a social disgrace.

The letter signed by Francis M. Forster, M.D., Madison, Wis., Peter Kellaway, Ph.D., Houston, Roland P. Mackay, M.D., Chicago, Robert S. Schwab, M.D., Boston, and A. Earl Walker, M.D., Baltimore, said:

"We submit the following statements to the many physicians responsible for the health and peace of mind of nearly one million patients with various types of epileptic seizures:

"Neither the clinical history nor the electroencephalogram of Mr. Ruby indicated any definite evidence of epilepsy.

"Epileptic seizures are never associated with complicated and planned criminal acts of violence.

"Epileptics are as safe to be with as any group of people except in extremely rare and usually predictable situations."

Urge Psychiatric Help in Hospital Emergency Units

Psychiatric help in hospital emergency clinics is a much needed community service, a study at City Hospital Center at Elmhurst, Queens, N.Y., indicates.

Roughly 50 per cent of the patients seen in the Medical-Surgical Emergency Clinic of the hospital during hours when no other psychiatric help was available in the hospital were suffering some kind of psychiatric disorder, according to a report in the March *Archives of General Psychiatry*, published by the American Medical Association.

"We can, therefore, strongly recommend that every general hospital which has an emergency clinic add a member of the psychiatric team to the medical staff," Leopold Bellak, M.D., Max Prola, M.A., Mrs. Eva J. Meyer, and Marcia Zunkerman, M.A., Elmhurst, N.Y., said.

If a psychiatrist is not easily available, a properly trained psychiatric social worker or clinical psychologist can also be of very great value, it was pointed out.

"It seems only reasonable that in a modern hospital psychiatric problems be treated as promptly and as efficiently as somatic problems whether they occur independently or as causes or sequelae of the physical disorder," the authors commented.

"It appears so elementary that we trust it will soon seem that there could never have been a time when an emergency clinic did not have a specialist available in emotional first-aid."

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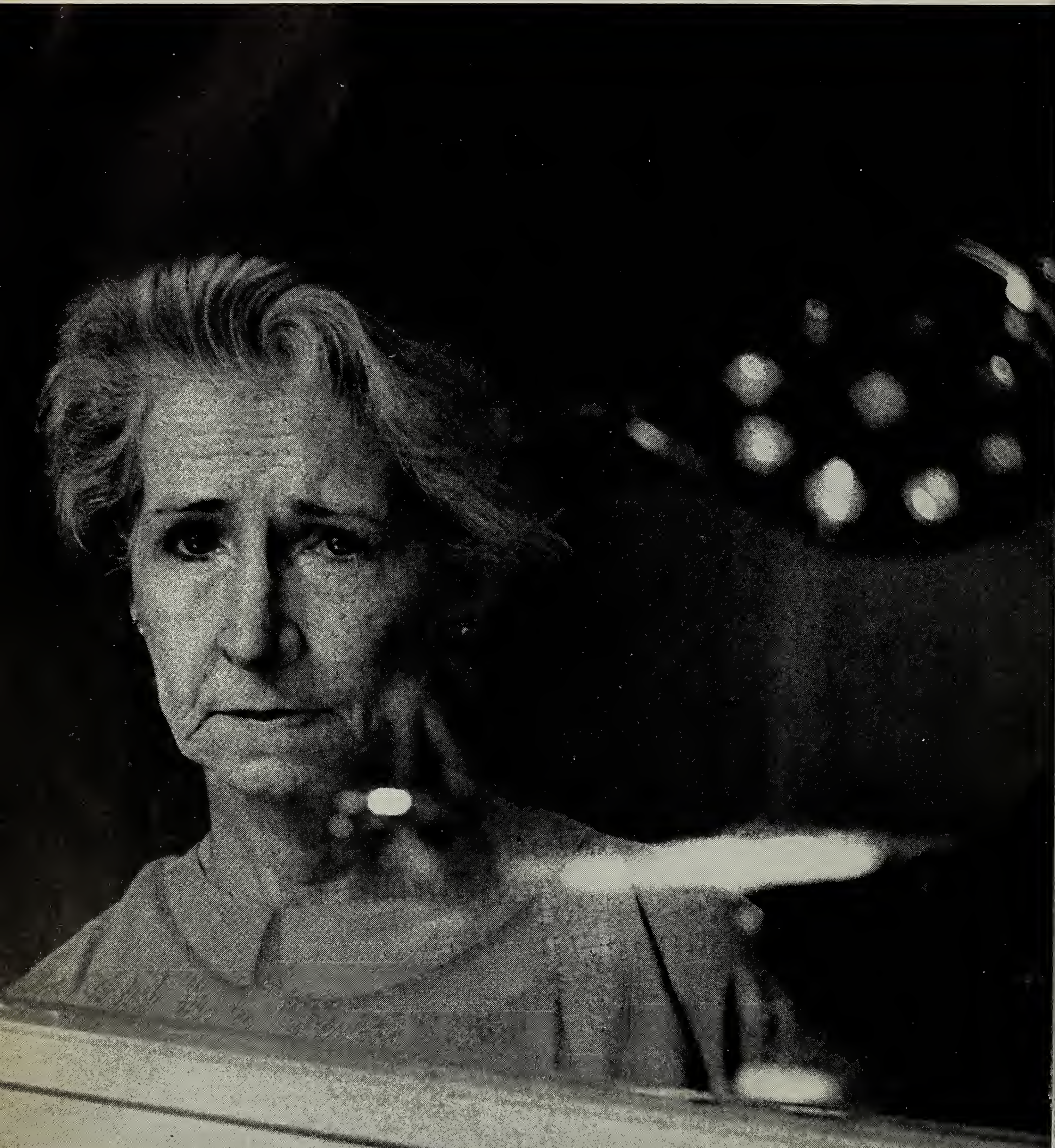

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REFERENCES AND REVIEWS

Health Effects of Detergents in Water—R. L. Woodward (4676 Columbia Pkwy., Cincinnati), H. E. Stokinger, and D. J. Birmingham. Arch. Environ. Health, 8:584 (April) 1964..

The synthetic detergents, which have largely replaced soaps for household laundering and dishwashing in recent years, have caused widespread surface and ground water pollution problems in the U.S. and in other countries. The commonest organic surface active agent in these detergents is an alkyl benzene sulfonate (ABS) derived from tetrapropylene. This molecule is relatively resistant to biological degradation in conventional waste treatment plants and in streams. Substitution of more readily biodegradable surfactants would help to solve some of the water pollution problems because of detergents but would not solve them all. This substitution will probably take place in the next few years in the U.S. The present day household synthetic detergents cannot be considered as significant hazards to health.

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Guanethidine in Combination With Hydralazine and With Hydrochlorothiazide in Hypertension—P. F. Shelburne, F. A. Sassen, and E. S. Orgain (Duke Hosp., Durham, N.C.). Amer. J. Med. Sci., 247:307 (March) 1964.

A single group of 20 hypertensive patients was treated first with guanethidine alone, then with hydralazine and guanethidine, and finally with hydrochlorothiazide and guanethidine. Both combinations proved more effective in lowering blood pressure than did guanethidine alone. Hydrochlorothiazide, added to guanethidine, was slightly more effective in reducing blood pressure than hydralazine and the drug was better tolerated. Hydralazine in combination with guanethidine may be reserved for those patients who are sensitive to thiazide compounds or who have gout, abnormalities of glucose metabolism, or who are particularly vulnerable to postural hypotension.

* * *

Hyperactivity and Peripheral Nerve Conductivity—M. F. Jurko (2500 N. State St., Jackson, Miss.), D. P. Foshee, and J. Clinton Smith. Arch. Gen. Psychiat., 10:431 (April) 1964.

Peripheral motor nerve conduction velocity determinations (ulnar nerve) were made in a chronic psychiatric population of 100 patients. Motor nerve velocity was found to be significantly faster in those patients having a history of motor hyperactivity. The psychiatric population as a whole had a conduction rate which was approximately 20 per cent more rapid than that reported for normal subjects.

* * *

Exposure to Guthion During Spraying and Formulating—Z. Jegier (Research Institute in Industrial Hygiene and Air Pollution, Montreal, Canada). Arch. Environ. Health, 8:565 (April) 1964.

The potential respiratory and dermal exposure of 20 spraymen and of a group of formulating plant workers to the insecticide Guthion was determined in connection with a survey of the health hazards of some of the more highly toxic insecticides. The methods used in the evaluation of these exposures included determinations of Guthion by extraction from air samples, respiratory pads, and skin pads. The extent of the exposures indicated that under conditions similar to those found during the survey, workers in apple orchards and formulating plants are unlikely to exhibit symptoms of acute Guthion poisoning.

* * *

Studies in Direction Sense. I. Turner's Syndrome—D. Alexander, H. T. Walker, and J. Money (601 N. Broadway, Baltimore). Arch. Gen. Psych., 10:337 (April) 1964.

Right-left direction sense was measured by means of a road map test in a sample of patients with Turner's syndrome and in a group of normal subjects. The performance on the test by Turner's syndrome group was significantly poorer than that of the control group and suggests that a specific disability for right-left direction sense accompanies Turner's syndrome. This finding is in keeping with previous reports of a space-form dysgnosia found in connection with this chromosomal aberration and is important since it adds to the growing evidence linking genetics with behavior.

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References: 1. Brown, T. T.: The Enigma of Drug Addiction, Springfield, Ill., Charles C Thomas, 1961, pp. 287-334. 2. Chesnick, R. D.: Med. Times **90**:247 (March) 1962. 3. Narcotic Addiction Symposium: New York Med. **18**:562 (Aug. 20) 1962.

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Dr. William J. Darby Chosen For Goldberger Award

Dr. William J. Darby, 50, educator and co-discoverer of folic acid, has been named to receive the 1964 Joseph Goldberger Award in Clinical Nutrition, the American Medical Association has announced.

Dr. Darby is professor of biochemistry and head of the department of biochemistry and nutrition, at Vanderbilt University School of Medicine, Nashville, Tenn.

The award, a commemorative plaque and $1,000, will be presented at the AMA's annual convention in San Francisco in June. The award was created in 1949 by the AMA Council on Foods and Nutrition in cooperation with the Nutrition Foundation, Inc., in honor of Dr. Joseph Goldberger, who established the science of clinical nutrition in this country.

Dr. Darby has made "world-wide contributions to medicine, nutrition, and education," the AMA council said.

The first significant research with which Dr. Darby was associated, involving folic acid, was at the University of Arkansas in 1932 under an AMA grant of less than $1,000, at that time a significant sum.

His early work at Vanderbilt significantly increased knowledge of the function and role of vitamin C, folic acid, and vitamin B_{12} in metabolism. His research in the area of nutritional anemias and sprue was culminated recently by the announcement that specific anemia in humans responds to vitamin E therapy.

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Dr. Darby's interest in international health dates back to his work in Yugoslavia following World War II when he assessed the food and health requirements for recovery. His influence also has been felt in the Philippines, Ethiopia, Ecuador, Lebanon, Central America, and Egypt. For many years, he has served in an advisory capacity to the Food and Agricultural Organization, World Health Organization, and the United Nations Children's Fund (UNICEF).

Nutrition surveys are another area in which Dr. Darby has made a significant contribution. The survey methods used by the U.S. Interdepartmental Committee on Nutrition for National Defense were developed under his direction. These surveys have been used for the armed forces and for civilian groups in 22 countries.

Dr. Darby is perhaps best known as an educator and many of his students have become scholarly investigators. The department of biochemistry and nutrition at Vanderbilt which he directs is a model union of these two disciplines.

Dr. Darby has been an advisor to the Department of Health, Education and Welfare and served as a member of the Citizen's Advisory Committee which proposed the reorganization of the Federal Food and Drug Administration. He is also an acknowledged leader in the field of toxicology.

Dr. Darby was a member of the AMA Council on Foods and Nutrition from 1948 to 1962 and served as chairman in 1961-62.

RELATIONSHIP OF INFANTILE ATOPIC DERMATITIS TO ASTHMA AND OTHER RESPIRATORY ALLERGIES—J. Bono and P. Levitt (New York Medical College, Fifth Ave. at 106th St., New York). Ann. Allergy, 22:72 (Feb.) 1964.

An infant with atopic dermatitis has a 2.2 times greater chance of developing a respiratory allergy in later life than an infant with no atopic dermatitis. Presented are results of a study of 439 children seen in a medical group clinic and followed for a period of 10 to 14 years.

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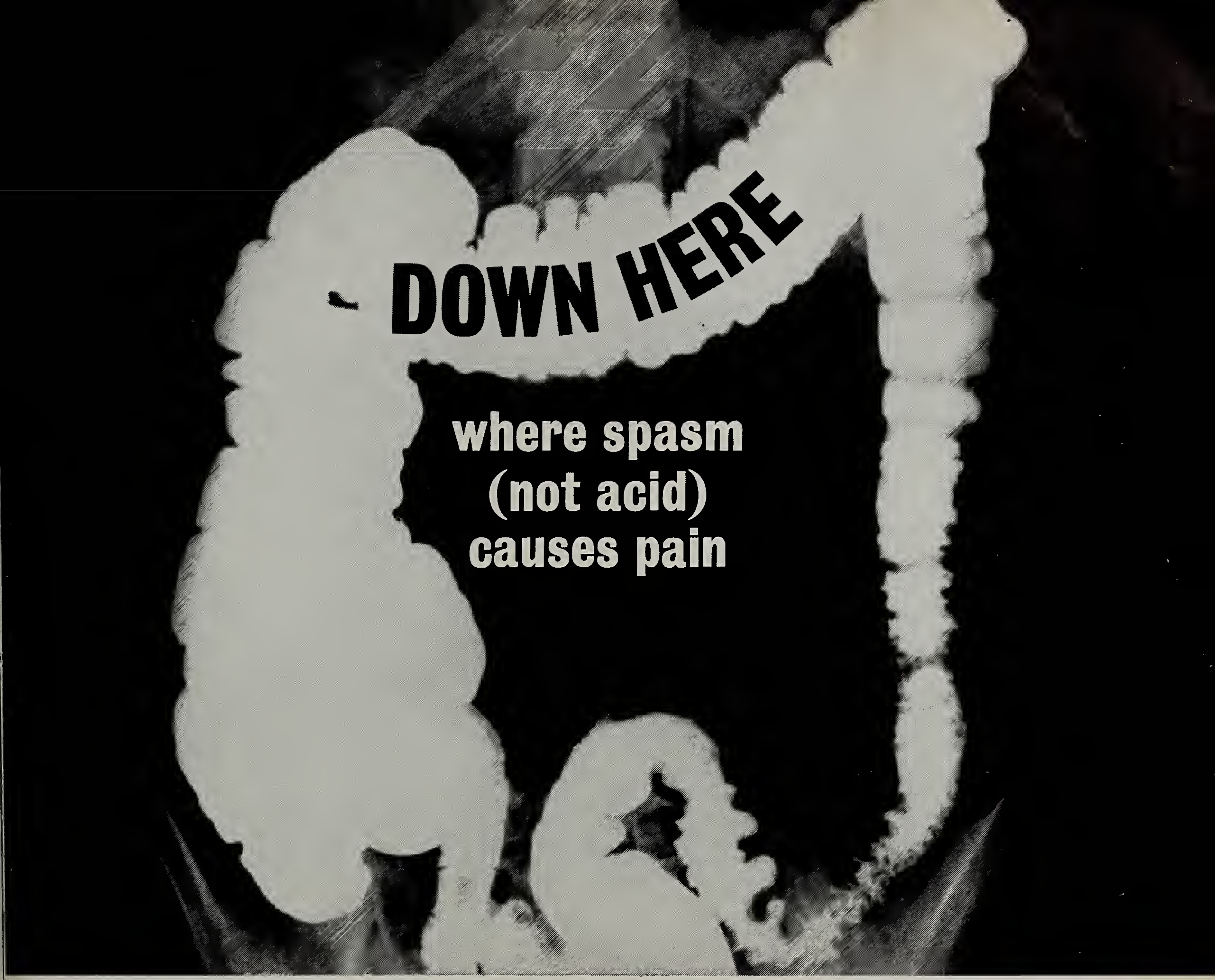

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BOOKS RECEIVED

Books received by CALIFORNIA MEDICINE *are acknowledged in this column. Selections will be made for more extensive review in the interest of readers as space permits.*

ADVANCES IN THE TREATMENT OF MENSTRUAL DYSFUNCTION—edited by Alvin F. Goldfarb, M.D., Assistant Professor of Obstetrics and Gynecology, Jefferson Medical College, Philadelphia, Pa., Lea & Febiger, 600 Washington Square, Philadelphia, 1964. 188 pages, $4.00.

ALCOHOL EDUCATION FOR CLASSROOM AND COMMUNITY—a source book for educators—Raymond G. McCarthy, editor, Professor of Education and Director, Summer School of Alcohol Studies, Rutgers—The State University. McGraw-Hill Book Company, New York, San Francisco, Toronto, London, 1964. 308 pages, $7.50.

CANCER OF THE STOMACH—William H. ReMine, M.D., M.S. in Surgery, F.A.C.S.; Head of a Section of Surgery, Mayo Clinic; Assistant Professor of Surgery, Mayo Foundation, Graduate School, University of Minnesota; James T. Priestley, M.D., M.S. in Experimental Surgery, Ph.D. in Surgery, F.A.C.S.; Head of a Section of Surgery, Mayo Clinic; Professor of Surgery, Mayo Foundation, Graduate School, University of Minnesota; and Joseph Berkson, M.D., D.Sc.; Head of the Section of Biometry and Medical Statistics, Mayo Clinic; Professor of Biometry and Medical Statistics, Mayo Foundation, Graduate School, University of Minnesota; and Members of the Staff of the Mayo Clinic, Rochester, Minnesota. W. B. Saunders Company, Philadelphia and London, 1964. 255 pages, $11.50.

CASE STUDIES IN OBSTETRICS AND GYNECOLOGY—F. Jackson Stoddard, M.D., Associate Clinical Professor of Obstetrics and Gynecology, Marquette University School of Medicine, Milwaukee, Wisconsin. W. B. Saunders Company, Philadelphia and London, 1964. 312 pages, $8.50.

CHEMICAL PROTECTION OF THE BODY AGAINST IONIZING RADIATION—edited by V. S. Balabukha. Translated from the Russian by J. T. Greaves. Translation edited by J. H. Barnes, Member of Scientific Staff, M.R.C., Radiobiological Research Unit, Harwell. A Pergamon Press Book, distributed by The Macmillan Company, New York, pursuant to a special arrangement with Pergamon Press, Oxford, England, 1964. 168 pages, $8.50.

CORRECTABLE RENAL HYPERTENSION—Chester C. Winter, M.D., F.A.C.S., Professor, Department of Surgery, Ohio State University College of Medicine; Director, Division of Urology, University and Children's Hospitals, Columbus; and Consultant in Urology, Veterans Hospital, Dayton, and Wright-Patterson Air Force Base Hospital, Fairborn, Ohio. Lea & Febiger, Philadelphia, 1964. 190 pages, $7.50.

CURRENT THERAPY—1964—Latest Approved Methods of Treatment for the Practicing Physician—edited by Howard F. Conn, M.D. W. B. Saunders Company, Philadelphia and London, 1964. 797 pages, $13.00.

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DOCTOR TALKS TO 9-TO-12-YEAR-OLDS, A—Marion O. Lerrigo, Ph.D., in consultation with Michael A. Cassidy, M.D. Budlong Press Company, 5428 North Virginia Avenue, Chicago, Ill., 1964. 112 pages, illustrated. Patient price: $1.50; Doctor's Prices: Box of 25, $18.75; Box of 50, $35.00; Box of 100, $65.00. (Professional distribution only, no book store sales.) (Complimentary copy of book will be sent to physicians requesting same on their professional stationery by writing: Professional Service Dept., Budlong Press, 5428 N. Virginia Ave., Chicago, Ill., 60625.)

ECONOMICS OF AMERICAN MEDICINE, THE—Seymour E. Harris, Lucius Littauer Professor of Political Economy, Harvard University. The Macmillan Company, New York, Collier-Macmillan Limited, London, 1964. 508 pages, $8.50.

EFFECTS OF IONIZING RADIATION ON THE REPRODUCTIVE SYSTEM—Proceedings of an International Symposium held at Colorado State University, Fort Collins, Colorado—Editors, William D. Carlson and F. X. Gassner. Sponsored by Colorado State University and American Institute of Biological Sciences; funded by Division of Special Projects, United States Atomic Energy Commission. A Pergamon Press Book, distributed by The Macmillan Company, 60 Fifth Avenue, New York 11, N.Y., pursuant to a special arrangement with Pergamon Press, Inc., New York 11, N.Y., 1964. 478 pages, $14.00.

FOETAL AND NEONATAL PATHOLOGY—Second Edition—J. Edgar Morison, M.D., D.Sc., Consultant in Histo-Pathology, The Laboratories, Belfast City Hospital; Honorary Lecturer in Pathology, The Queen's University of Belfast; formerly Reader in Pathology, The Queen's University of Belfast, and Pathologist, Royal Victoria Hospital, Belfast; Sometime Travelling Fellow in Medicine, Rockefeller Foundation, New York. Butterworth Inc., Washington, D.C., 1963. 538 pages, $19.50.

GASTROENTEROLOGY—VOLUME II, Second Edition—Henry L. Bockus, M.D., Emeritus Professor of Medicine, University of Pennsylvania Graduate School of Medicine; and Present and Former Colleagues at the University of Pennsylvania Graduate School of Medicine and School of Medicine. W. B. Saunders Company, Philadelphia and London, 1964. 1241 pages, $28.00.

HANDBOOK OF LEGAL MEDICINE—Second Edition—Alan R. Moritz, M.D., Professor of Pathology and Director of the Institute of Pathology, Western Reserve University, Cleveland, Ohio; and C. Joseph Stetler, LL.B., LL.M., Executive Vice-President and General Counsel, Pharmaceutical Manufacturers Association, Washington, D.C. The C. V. Mosby Company, St. Louis, 1964. 239 pages, $5.75.

HEY GROVES' SYNOPSIS OF SURGERY—Sixteenth Edition—Edited by L. T. Cotton, M.A., M.Ch. (Oxon.), F.R.C.S. (Eng.), Consultant Surgeon to King's College Hospital and Belgrave Hospital for Children; Honorary Surgeon to Queen Victoria Hospital, East Grinstead; Surgical Tutor at King's College Hospital Medical School. The Williams & Wilkins Company, Baltimore 2, Md., 1963. 778 pages, $9.00.

JOINT PAIN—Diagnosis and Treatment Using Manipulative Techniques—John McM. Mennell, M.D., Assistant Clinical Professor, Department of Physical Medicine and Rehabilitation, University of Southern California; Assistant Clinical Professor, Department of Physical Medicine, Medical School, Loma Linda University; Staff Physician, Veterans Administration Hospital, Long Beach. Little, Brown and Company, Boston, 1964. 178 pages, $9.00.

PATIENT CARE AND SPECIAL PROCEDURES IN X-RAY TECHNOLOGY — 2nd Edition — Carol Hocking Vennes, R.N., B.S., Part-time Clinical Instructor, University of Minnesota Hospital, Minneapolis, Minn.; formerly Surgical Supervisor and Clinical Instructor, University of Minnesota Hospital, Minneapolis, Minn.; and John C. Watson, R.T., Technical Consultant, Department of Radiology, Yale Medical Center and Grace-New Haven Community Hospital, New Haven, Conn.; formerly Director of Courses in X-ray Technology, University of Minnesota Hospital, Minneapolis, Minn. The C. V. Mosby Company, 3207 Washington Boulevard, St. Louis 3, Mo., 1964. 228 pages, $6.25.

PSYCHIATRY FOR STUDENTS—David Stafford-Clark, M.D., F.R.C.P., D.P.M., Physician-in-Charge, Department of Psychological Medicine and Director of York Clinic, Guy's Hospital, London; Consultant Physician to the Bethlem Royal and Maudsley Hospitals, and to the Institute of Psychiatry in the University of London; with a chapter on Child Psychiatry by Gerard Vaughan, M.B., M.R.C.P., D.P.M., Physician-in-Charge, Department of Child Psychiatry, Guy's Hospital, London Consultant Psychiatrist

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BOOKS RECEIVED

(Continued from Page 58)

to the Wood Vale Children's Reception Centre, London County Council; and an appendix on Clinical Psychology by Jessie Williams, M.A., Lately Consultant Clinical Psychologist, Guy's Hospital, London. Grune & Stratton, Inc., 381 Park Avenue South, New York 16, N.Y., 1964. 277 pages, $5.75.

PSYCHOPHARMACOLOGICAL METHODS — Proceedings of a Symposium on the Effects of Psychotropic Drugs on Higher Nervous Activity held in Prague from 30 October to 2 November 1961 under the Auspices of the Society for the Study of Higher Nervous Activity, Section of Czechoslovak Medical Society—edited by Zdenek Votava, Professor of Pharmacology, Charles' University Medical Faculty of Hygiene, Prague; Milan Horvath, Chief, Department of Physiology of Higher Nervous Activity, Institute of Industrial Hygiene and Occupational Diseases, Prague 10; Lecturer, Charles' University Medical Faculty of Hygiene, Prague; and Oldrich Vinar, Chief, Department of Psychopharmacology, Psychiatric Research Institute, Prague 8. A Pergamon Press Book, distributed by The Macmillan Company, New York, pursuant to a special arrangement with Pergamon Press Limited, Oxford, England, 1963. 360 pages, $14.00.

SCIENCE BOOK OF MODERN MEDICINE, THE—Donald G. Cooley—Giant Cardinal Edition Published by Pocket Books, Inc., New York, 1963. 228 pages, 50c—Also published by Franklin Watts, Inc., hardbound edition, $4.95.

SOCIAL STRUCTURE AND PERSONALITY—Talcott Parsons. The Free Press of Glencoe. A Division of The Macmillan Company, 60 Fifth Avenue, New York, N.Y., 10011; 1964. 376 pages, $8.50.

TEACHING ABOUT ALCOHOL—Frances Todd. McGraw-Hill Book Company, New York, San Francisco, Toronto and London. 230 pages, $3.50 (Paperbound; also available in hardcover at $5.95).

TRENDS IN THE NATIONAL HEALTH SERVICE—edited by James Farndale, Senior Lecturer in Hospital Administration, City of Westminster College, London. A Pergamon Press Book, distributed by The Macmillan Company, 60 Fifth Avenue, New York 11, N.Y., pursuant to a special arrangement with Pergamon Press Limited, Oxford, England, 1964. 423 pages, $15.00.

YEAR BOOK OF DRUG THERAPY (1963-1964 Year Book Series), with a special section on Precautions — edited by Harry Beckman, M.D., Consulting Physician, Columbia and Milwaukee County General Hospitals, Milwaukee, Wisconsin; Professor (Emeritus), Department of Pharmacology, Marquette University School of Medicine. Year Book Medical Publishers, Inc., 35 E. Wacker Drive, Chicago 1, Ill., 1964. 640 pages, $8.50.

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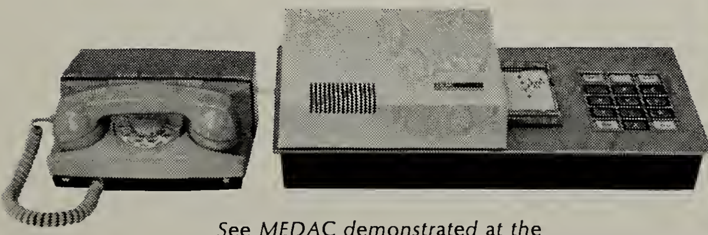

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Dale W. Ritter, Chico	1965
Donald Minkler, Berkeley	1966
Walter Beckh, San Francisco	1967
Robert J. McNeil, Los Angeles (Chmn.)	1967

Committee on Dangerous Drugs

Edward R. Bloomquist, Glendale	1965
Edward T. Jewett, Santa Rosa	1965
William F. Quinn, Los Angeles (Chmn.)	1966
Helen B. Weyrauch, San Francisco	1966
Norman A. Gale, San Diego	1967

CONSULTANT:
Ralph W. Weilerstein, Berkeley

Committee on Veterans Affairs

Charles B. Hudson, Oakland (Chmn.)	1965
Ben D. A. Miano, San Bernardino	1966
Milo A. Youel, San Diego	1967

CONSULTANT:
Lloyd E. Gould, Veterans' Home

* * *

COMMISSION ON *Community Health Services*

Packard Thurber, Jr., Los Angeles	1965
Joseph F. Maguire, Ventura	1965
Llewellyn E. Wilson, Anaheim (Secy.)	1965
Leopold J. Snyder, Fresno	1965
Wayne P. Chesbro, Berkeley	1965
Harold Kay, Oakland (Chmn.)	1966
Charles G. Hutter, Jr., Hollywood	1966
Gerald G. Jampolsky, Tiburon	1967
Robert W. Purvis, Modesto	1967

Committee on Rural Health

Carrol W. Goss, Lamont	1965
Leopold J. Snyder, Fresno (Chmn.)	1965
Francis N. Hatch, Modesto	1966
John R. Heckman, Marysville	1966
Mitry P. Ajalat, Calexico	1967
Richard W. Johnson, Arbuckle	1967

Committee on School Health

William A. Leovy, La Mesa	1965
J. H. Nelson, Ojai	1965
Deane Adams, San Jose	1966
Joseph W. St. Geme, Los Angeles	1966
B. Otis Cobb, Concord	1967
Gerald G. Jampolsky, Tiburon (Chmn.)	1967
John M. Kenney, Santa Rosa	1967
Byron H. Demorest, Sacramento	1967

CONSULTANT:
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Committee on Occupational Health

Edward Zaik, Los Angeles	1965
Edward P. Luongo, Los Angeles	1965
Packard Thurber, Jr., Glendale (Chmn.)	1965
Walter J. Gillogley, Belmont	1966
Elizabeth Austin, Los Angeles	1966
John H. Leimbach, Jr., San Francisco	1967
Herbert A. Holden, San Leandro	1967
Howell E. Wiggins, San Diego	1967

Committee on Disaster Medical Care

Wayne P. Chesbro, Berkeley (Chmn.)	1965
Rob H. Kirkpatrick, Sacramento	1965
J. T. McNally, Stockton	1966
John Heald, San Francisco	1966
Charles C. Henderson, San Mateo	1967
Donald E. Barker, Los Angeles	1967

CONSULTANT:
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Committee on Traffic Safety

William S. Cappeller, San Francisco	1965
Arnold R. Freisen, Pasadena	1965
Joseph F. Maguire, Ventura (Chmn.)	1966
Thomas W. Lyons, La Mesa	1966
George C. Snively, Sacramento	1967
B. G. Stewart, Bakersfield	1967

CONSULTANT:
Irma M. West, Berkeley

Committee on Medical Aspects of Sports

George S. Buehler, Whittier	1965
Robert F. Palmer, San Francisco	1965
Charles G. Hutter, Hollywood (Chmn.)	1966
John F. Blinn, Stockton	1967
Robert K. Kerlan, Los Angeles	1967

CONSULTANT:
Joseph W. St. Geme, Los Angeles

Committee on Blood Banks

Robert W. Purvis, Modesto (Chmn.)	1967
Osman H. Hull, Monterey	1967
James H. Yant, Sacramento	1967

CONSULTANT:
Elmer R. Jennings, Long Beach

Committee on Allied Health Agencies

Thomas W. Ledwich, Napa	1965
Harold Kay, Oakland (Chmn.)	1966
H. Mason Hohl, Beverly Hills	1967

* * *

BUREAU ON *Communications*

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John B. Schaupp, San Francisco
Malcolm C. Todd, Long Beach (Vice-Chmn.)
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Samuel R. Sherman, San Francisco
David J. Dugan, Oakland
William L. Kinney, Riverside

EX-OFFICIO:
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Ralph C. Teall, Sacramento
Carl E. Anderson, Santa Rosa

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COMMISSION ON *Professional Welfare*

Leo J. Adelstein, Los Angeles	1965
Dan Tucker, Oakland	1965
Edward Liston, Palo Alto	1965
Bert L. Halter, San Francisco	1966
George K. Herzog, Jr., San Francisco, (Chmn.)	1966
J. Norman O'Neill, Los Angeles (Secy.)	1967

Committee on Health and Accident Insurance

George K. Herzog, Jr., San Francisco, (Chmn.)	1965
T. W. Loring, Eureka	1965
Homer C. Pheasant, Los Angeles	1966
Robert J. Westcott, El Centro	1967
Robert X. DeMangus, Glendale	1967
John B. Long, Sacramento	1967

Medical Review and Advisory Board

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Donald E. Ross, Los Angeles	1965
Donald Donisthorpe, Los Angeles	1966
Eugene M. Webb, San Francisco	1967
James H. Yant, Sacramento	1967

Committee on Private Practice of Medicine by Medical Schools Faculty Members

Frank J. Novak, San Mateo	1965
Victor Kovner, Los Angeles	1965
Bert L. Halter, San Francisco (Chmn.)	1966
Samuel R. Irvine, Beverly Hills	1967
Francis E. West, San Diego	1967

* * *

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James R. Powell, Stockton (Secy.)	1965
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Gerald W. Shaw, Santa Monica	1965
Franklin F. Ham, Van Nuys	1966
John T. Saidy, San Mateo	1966
John J. Sheehy, Riverside	1967
H. Russell Fisher, Glendale	1967
Samuel R. Sherman, San Francisco (Chmn.)	1967

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Ralph C. Teall, Sacramento
Carl E. Anderson, Santa Rosa

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Sidney J. Shipman, San Francisco	1965
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Douglas G. Campbell, San Francisco	1966
W. Philip Corr, Riverside (Secy.)	1966
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Donald A. Charnock, Los Angeles (Chm.)	1967
Albert E. Long, San Francisco	1967
Donald Cass, Los Angeles	1967

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Scientific Board

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Walter E. Heck, San Francisco	1965
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Edmund L. Keeney, La Jolla	1965
Stuart C. Knox, Hollywood	1965
William P. Longmire, Jr., Los Angeles	1965
J. G. Moore, Los Angeles	1965
Telfer B. Reynolds, Los Angeles	1965
Saul J. Robinson, San Francisco	1965
John B. deC. M. Saunders, San Francisco	1965
David A. Wood, San Francisco	1965
Grace B. Bell, Los Angeles	1966
Gerson R. Biskind, San Francisco	1966
Leland B. Blanchard, San Jose	1966
Eugene M. Farber, Palo Alto	1966
A. J. Franzi, San Francisco	1966
L. S. Goerke, Los Angeles	1966
George C. Griffith, Los Angeles	1966
Joseph J. Kaufman, Los Angeles	1966
Alonzo J. Neufeld, Los Angeles	1966
Donald W. Petit, Pasadena	1966
Paul C. Samson, Oakland	1966
Edward B. Shaw, San Francisco (Chmn.)	1966
Malcolm S. M. Watts, San Francisco	1966
William W. Belford, San Diego	1967
Jerome W. Bettman, San Francisco	1967
John B. Dillon, Los Angeles	1967
Justin J. Stein, Los Angeles	1967
Charles E. Grayson, Sacramento	1967
R. Kirklin Ashley, San Francisco	1967
Clayton G. Loosli, Los Angeles	1967
Lowell A. Rantz, Palo Alto	1967
Victor Richards, San Francisco	1967
David Rubin, Los Angeles	1967
Keith P. Russell, Los Angeles	1967
Edward J. Zaik, Los Angeles	1967

EX-OFFICIO:
Dwight L. Wilbur, San Francisco

Executive Committee

Lewis T. Bullock, Los Angeles	1965
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George C. Griffith, Los Angeles	1966
Malcolm S. M. Watts, San Francisco	1966
William W. Belford, San Diego	1967
Clayton G. Loosli, Los Angeles	1967
Victor Richards, San Francisco	1967
Justin J. Stein, Los Angeles	1967

CONSULTANT:
Albert C. Daniels, San Francisco

EX-OFFICIO:
Dwight L. Wilbur, San Francisco

Committee on Scientific Assemblies

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Telfer B. Reynolds, Los Angeles	1965
J. B. deC. M. Saunders, San Francisco	1965
George C. Griffith, Los Angeles	1966
John B. Dillon, Los Angeles	1967
Victor Richards, San Francisco (Chmn.)	1967
Lowell A. Rantz, Palo Alto	1967

CONSULTANT:
Albert C. Daniels, San Francisco

Committee on CALIFORNIA MEDICINE

Grace B. Bell, Los Angeles	1966
Eugene M. Farber, Palo Alto	1966
Clayton G. Loosli, Los Angeles (Chmn.)	1967
David Rubin, Los Angeles	1967
R. Kirklin Ashley, San Francisco	1967

Committee on Nominations

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Malcolm S. M. Watts, San Francisco (Chmn.)	1966
William W. Belford, San Diego	1967

Committee on Continuing Medical Education

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Alonzo J. Neufeld, Los Angeles	1966
Donald W. Petit, Pasadena	1966
Victor Richards, San Francisco	1967

CONSULTANT:
Albert C. Daniels, San Francisco

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Stuart C. Knox, Hollywood	1965
Gerson R. Biskind, San Francisco	1966
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Justin J. Stein, Los Angeles (Chmn.)	1967

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Edward J. Zaik, Los Angeles

Committee on Maternal and Child Care

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Herbert A. Holden, San Leandro	1965
Saul J. Robinson, San Francisco	1965
Leland B. Blanchard, San Jose	1966
James W. Ravenscroft, San Diego	1966
Russell W. Mapes, Beverly Hills	1967
Keith P. Russell, Los Angeles (Chmn.)	1967
Forrest H. Howard, Santa Ana	1967

Committee on Cancer

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Walter E. Heck, San Francisco	1965
John G. Walsh, Sacramento	1965
David A. Wood, San Francisco (Chmn.)	1965
Burt L. Davis, Palo Alto	1966
Paul C. Samson, Oakland	1966
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Committee on Cancer Education

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Committee on Tumor Tissue Registry

E. M. Butt, Los Angeles	1965
John W. Cline, San Francisco (Chmn.)	1965
Lewis M. Guiss, Los Angeles	1965
James E. Kahler, Los Angeles	1965
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Committee on Consultative Tumor Boards

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Walter E. Heck, San Francisco (Chmn.)	1965
Carl L. Moore, Bakersfield	1965
Otto Pflueger, San Francisco	1965
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Committee on New and Unproved Methods of Cancer Treatment

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Paul C. Samson, Oakland (Chmn.)	1965
Ray Seavers, Jr., San Bernardino	1965
Jerome A. Weinbaum, Chico	1965

CONSULTANT:
Kenneth F. Ernst, Berkeley
(Cancer Adv. Council)

* * *

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* * *

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John Rumsey, San Diego
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Members who contemplate presentation of scientific papers should promptly address the secretary of the proper section at the address shown below.

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10911 Weyburn Avenue, Los Angeles 90024
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Industrial Medicine and Surgery

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1930 Wilshire Boulevard, Room 607,
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South Bascom Avenue, San Jose 95128

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4900 Sunset Boulevard, Los Angeles 90027

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Metropolitan State Hospital, Norwalk 90650
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Los Angeles 90027
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San Francisco 94117
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1518 North Sycamore, Santa Ana 92701

Delegates and Alternates

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Arthur A. Kirchner, Los Angeles	(1963-1964)	Dudley M. Cobb, Los Angeles
Dwight L. Wilbur, San Francisco	(1963-1964)	Francis J. Cox, San Francisco
J. Norman O'Neill, Los Angeles	(1963-1964)	William F. Quinn, Los Angeles
J. Lafe Ludwig, Los Angeles	(1963-1964)	Harold Kay, Oakland
Burt L. Davis, Palo Alto	(1963-1964)	Leon P. Fox, San Jose
Arlo A. Morrison, Ventura	(1963-1964)	John G. Morrison, San Leandro
James E. Feldmayer, Exeter	(1963-1964)	Charles Grayson, Sacramento
O. W. Wheeler, Riverside	(1963-1964)	Wilbur Bailey, Los Angeles
Malcolm C. Todd, Long Beach	(1963-1964)	Alfred J. Murieta, Jr., Los Angeles
J. E. Vaughan, Bakersfield	(1963-1964)	Joseph P. O'Connor, Pasadena
Samuel R. Sherman, San Francisco	(1964-1965)	Albert G. Miller, San Mateo
Henry Gibbons, III, San Francisco	(1964-1965)	Robert Combs, San Francisco
John M. Rumsey, San Diego	(1964-1965)	Francis E. West, San Diego
Eugene F. Hoffman, Los Angeles	(1964-1965)	Edward H. Crane, Jr., Inglewood
Warren L. Bostick, San Rafael	(1964-1965)	Walter H. Brignoli, St. Helena
J. B. Price, Santa Ana	(1964-1965)	Donald C. Dodds, Oakland
Ralph C. Teall, Sacramento	(1964-1965)	Robb Smith, Orange Cove
James C. Doyle, Beverly Hills	(1964-1965)	Homer C. Pheasant, Los Angeles
Wilbur G. Rogers, Glendale	(1964-1965)	Carl M. Hadley, San Bernardino
Charles B. Hudson, Oakland	(1964-1965)	Robert L. Watson, Jr., Los Angeles

(Delegates and Alternates to the A. M. A. are elected for terms of two calendar years. Each office is scheduled for election at the Annual Session of the second year shown above.)

Other Organizations and Medical Schools

Board of Medical Examiners of the State of California

Secretary..........Raymond M. Wallerius
1021 O Street, Room A547, Sacramento 95814
San Francisco..........455 Golden Gate Ave. Room 4184 94102
Los Angeles..........107 South Broadway 90012
Sacramento....1021 O Street, Room A547 95814

The Public Health League of California

Executive Secretary..........Ben H. Read
955 South Western Ave., Los Angeles 90006
Associate Executive Secretary..........E. E. Salisbury
693 Sutter Street, San Francisco 94102
San Francisco..........693 Sutter Street 94102 GRaystone 4-1061
Los Angeles..........955 South Western Ave. 90006 REpublic 1-6397

Department of Public Health of the State of California

Director..........Malcolm H. Merrill, M.D.
2151 Berkeley Way, Berkeley 94704
Berkeley..........2151 Berkeley Way 94704 THornwall 3-7900
Sacramento..........631 J Street 95814 HIckory 2-4711
Los Angeles..........703 State Building 90012 MAdison 0-2900

Medical Schools in California

University of California School of Medicine, Medical Center, San Francisco 94122. Dean: William O. Reinhardt, M.D.

Stanford University School of Medicine, 300 Pasteur Drive, Palo Alto 94304. Dean: Robert H. Alway, M.D.

University of Southern California School of Medicine, 2025 Zonal Avenue, Los Angeles 90033. Dean: Clayton G. Loosli, M.D.

Loma Linda University, School of Medicine, 1720 Brooklyn Avenue, Los Angeles 90033. Dean: David Burdg Hinshaw, M.D.

University of California at Los Angeles, School of Medicine, Hilgard Avenue, Los Angeles 90024. Dean: Sherman M. Mellinkoff, M.D.

California College of Medicine: 1721 Griffin Avenue, Los Angeles 90031. Dean: Warren L. Bostick, M.D.

• Deceased

Roster — CALIFORNIA COMPONENT MEDICAL SOCIETIES

Society secretaries are requested to notify California Medicine promptly when changes are indicated in their roster information

ALAMEDA-CONTRA COSTA Medical Assn., 6230 Claremont Ave., Oakland 94618. Meets quarterly.
Paul H. Cronenwett............President
6230 Claremont Ave., Oakland 94618
J. Brandon Bassett............Secretary
2930 McClure St., Oakland 94609

BUTTE-GLENN Medical Society, P. O. Box 1008, Chico 95927. Meets Fourth Thursday.
Jay O. Gibson............President
170 E. 2nd Ave., Chico 95926
Dale W. Ritter............Secretary
6 Cohasset Circle, Chico 95926

FORTY FIRST Medical Society, 4775 Santa Monica Blvd., Los Angeles 90029.
Loron N. McGillis............President
11230 Magnolia Blvd., No. Hollywood 91601
Glenn F. Gordon............Secretary
1630 Del Valle Ave., Glendale 91208

FRESNO County Medical Society, 2155 Amador, Fresno 93721. Meets Second Tuesday, 6:30 p.m., Sunnyside Country Club.
Norman E. Tostenson............President
1223 Wishon Ave., Fresno 93728
Joseph B. Ford, Jr. ....Secretary
2940 Fresno St., Fresno 93721

HUMBOLDT-DEL NORTE County Medical Society. Meets Second Thursday.
Robert Devine............President
730 7th St., Eureka 95501
Wells Carey............Secretary
2822 E St., Eureka 95501

IMPERIAL County Medical Society. Meets Second Tuesday, 8 p.m., Pioneer Memorial Hospital, Brawley.
Nathan Wolf............President
126 Main St., Brawley 92227
Ernest Brock ....Secretary
200 S. Imperial Ave., Imperial 92251

INYO-MONO County Medical Society. Meets Fourth Tuesday except December, January, February.
D. L. Christenson............President
380 N. Mt. Whitney Dr., Lone Pine 93545
W. Ray Hartwig............Secretary
459 West Line, Bishop 93514

KERN County Medical Society, 2603 G Street, Bakersfield 93301. Meets Third Tuesday, 7:30 p.m., Society Office, 2603 G Street, except June, July, August.
Hans E. Einstein............President
2441 "G" St., Bakersfield 93301
Keith W. Spaulding............Secretary
2521 "G" St., Bakersfield 93301

KINGS County Medical Society. Meets Second Thursday, 7:00 p.m. Place to be announced.
Clyde Ball............President
1320 Whitley Ave., Corcoran 93212
Edwin E. Kerr............Secretary
208 N. Douty St., Hanford 93230

LASSEN-PLUMAS-MODOC-SIERRA County Medical Society. Meets on call.
Lloyd Shannon............President
P. O. Box 963, Alturas 96101
Robert Haggard............Secretary
Loyalton, 96118

LOS ANGELES County Medical Assn., 1925 Wilshire Blvd., Los Angeles 90057.
Elmer F. Gooel............President
1925 Wilshire Blvd., Los Angeles 90057
George C. Andersen............Secretary
1925 Wilshire Blvd., Los Angeles 90057

MARIN Medical Society, 1601 Second St., Suite 106, San Rafael 94901. Meets First Thursday, 7:00 p.m.
Calvin Plumhof............President
711 D St., San Rafael 94901
John McGee ....Secretary
712 D St., San Rafael 94901

MENDOCINO-LAKE County Medical Society.
Thomas Nicholson............President
408 W. Perkins St., Ukiah 95482
Patrick R. Allanson............Secretary
728 S. State St., Ukiah 95482

MERCED County Medical Society. Meets Fourth Thursday, Hotel Tioga, Merced.
James A. Parker............President
535 W. 26th St., Merced 95340
Patrick J. Maloney............Secretary
656 W. 20th St., Merced 95340

MONTEREY County Medical Society, P. O. Box 308, Salinas 93903. Meets First Thursday.
Osman H. Hull............President
716 Cass St., Monterey 93940
Joseph E. Turner............Secretary
1073 Cass St., Monterey 93940

NAPA County Medical Society. Meets Second Wednesday, P. O. Box 658, Napa 94559
E. Paul White, Jr. ....President
P. O. Box 658, Napa 94559
Richard Clark............Secretary
1054 Beard Rd., Napa 94558

ORANGE County Medical Association, 300 S. Flower, Orange 92666. Meets First Tuesday, 7:00 p.m.
Hugh J. Plumb, Jr. ....President
1901 Westcliff Dr., Newport Beach 92663
Laurance A. Mosier............Secretary
10510 Chapman St., Garden Grove 92640

PLACER-NEVADA County Medical Society. Meets Second Wednesday.
Clifford W. Wauters............President
701 High St., Auburn 95603
Arthur R. Weaver............Secretary
701 High St., Auburn 95603

RIVERSIDE County Medical Association, 4175 Brockton Ave., Riverside 92501. Meets Second Monday, 7:30 p.m., Spanish Arts Gallery, Mission Inn.
Donald P. Carpenter............President
3660 Arlington Ave., Riverside 92506
Richard W. Trotter............Secretary
6876 Magnolia Ave., Riverside 92506

SACRAMENTO Society for Medical Improvement, 5380 Elvas Ave., Sacramento 95819. Meets Third Tuesday, 8:30 p.m., Sutter Hospital Auditorium.
L. Morgan Boyers............President
2615 Eye St., Sacramento 95816
James W. Martin............Secretary
5380 Elvas Ave., Sacramento 95819

SAN BENITO County Medical Society. Meets once a month, except July and August. Time and place to be announced.
Kent S. Taylor............President
345 5th St., Hollister 95023
Robert D. Quinn............Secretary
535 Monterey St., Hollister 95023

SAN BERNARDINO County Medical Society, 1875 N. D St., San Bernardino 92405. Meets First Tuesday, 7:30 p.m., Harold's Club, Fontana.
Merlin A. Hendrickson............President
238 N. Riverside Ave., Rialto 92376
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25060 Base Line, San Bernardino 92410

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John B. Schaupp............President
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SAN JOAQUIN County Medical Society. Meets First Thursday, 8:15 p.m., 445 W. Acacia St., P. O. Box 230, Stockton 95201.
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Dora A. Lee............Secretary
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SAN LUIS OBISPO County Medical Society. Meets Third Saturday, 7:00 p.m., Anderson Hotel, San Luis Obispo 93402.
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743 Pismo St., San Luis Obispo 93401
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323 N. San Mateo Dr., San Mateo 94401

SANTA BARBARA County Medical Society, 300 W. Pueblo St., Santa Barbara 93105. Meets Second Monday of the month, University Club, 1332 Santa Barbara St., Santa Barbara.
H. L. Stewart, Jr............President
300 W. Pueblo St., Santa Barbara 93105
Thurman K. Hill............Secretary
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SANTA CLARA County Medical Society, 1960 The Alameda, San Jose 95126. Meets First Monday.
S. Fred Kaufman............President
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Jacob M. Stone............Secretary
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SANTA CRUZ County Medical Society. Meets every Second Month, Second Tuesday. Time, place to be announced.
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John W. Morris............Secretary
230 Walnut Ave., Santa Cruz 95060

SHASTA-TRINITY County Medical Society. Meets Second Monday of the month. Place to be announced.
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1200 Marin St., Vallejo 94590
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A. A. Thurlow, Jr. ....President
185 Sotoyome St., Santa Rosa 95405
Tetsuro Fujii............Secretary
576 B St., Santa Rosa 95401

STANISLAUS County Medical Society, 303 Downey Ave., Modesto. Meets Third Tuesday of the month, 7 p.m., Hotel Covell, Modesto 95354.
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302 Glen Ellen Dr., Ventura 93003
F. K. Helbling............Secretary
3081 Loma Vista Rd., Ventura 93003

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Woodland Clinic, Woodland 95675
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3 Court St., Woodland 95695

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AMA Holds June Convention In San Francisco

High pressure oxygen chambers, computers, and organ transplantation will be key topics at the 113th annual convention of the American Medical Association in San Francisco, June 21-25.

The medical use of hyperbaric oxygenation and computers will be the subject of half-day general scientific sessions while 18 papers on transplantation will be presented during the Fourth Multiple Discipline Research Forum.

Dr. I. Boerema of the University of Amsterdam, a pioneer in hyperbaric research, will speak at the AMA meeting. He first used a high pressure chamber for human beings in 1956, and now uses it routinely for open heart surgery.

Nearly every possible medical use of electronic data processing equipment will be covered in a series of six lectures on computers. Their application in hospitals, research, and medical practice will be discussed and a totally automated psychological test will be described.

Other general sessions will be on the heart, endocrinology, autoimmune diseases, and liver disease.

The transplantation program will include research on human kidney grafts, canine lung and canine heart transplants and various means of preventing rejection of grafted organs. Serving as moderators for the two-part program will be Dr. John P. Merrill, Boston, and Dr. James D. Hardy, Jackson, Miss.

Other general topics on the Research Forum will be nutrition, cancer, and gastrointestinal, circulatory and respiratory problems.

Papers from 21 medical specialties will cover a wide variety of subjects including retirement, tobacco and heart disease, lasers, teenage pregnancy, Cuba, space, and poison control.

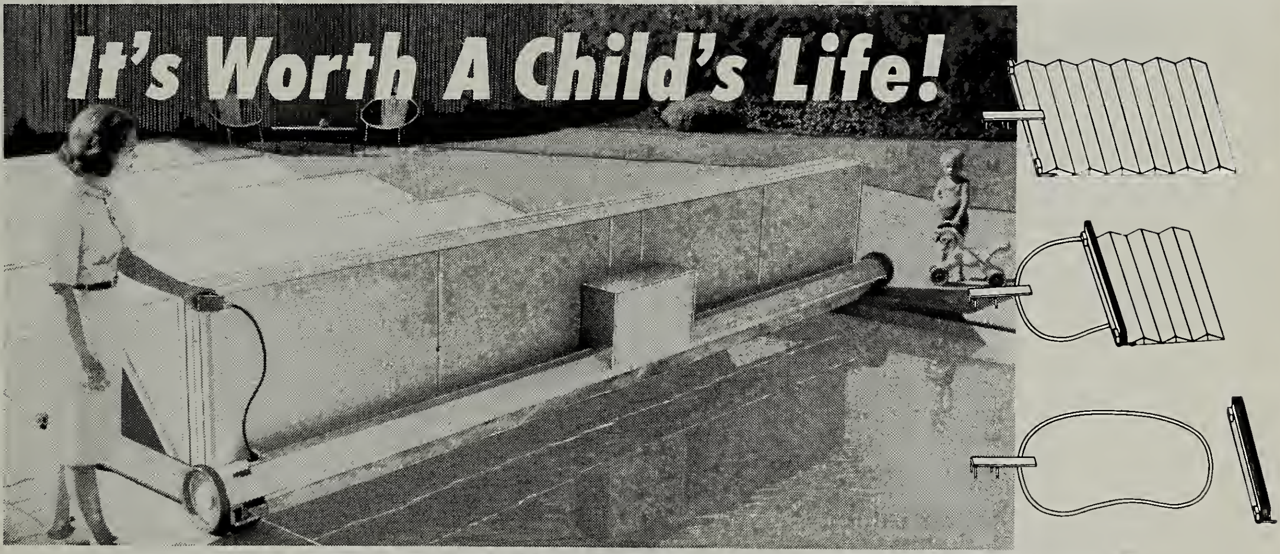
The convention program will begin with an evening session Sunday, June 21, on medicine and religion. Principal speakers will be Dr. William C. Menninger, Menninger Foundation, Topeka, Kan., and Rabbi Abraham J. Heschel, Jewish Theological Seminary, New York City.

The scientific program also will include 270 exhibits, 52 medical motion pictures, and closed-circuit color telecasts.

The House of Delegates, policy-making body of the AMA, will convene at the Fairmont Hotel.

The 41st annual convention of the Woman's Auxiliary to the AMA will be held at the St. Francis Hotel.

Co-chairmen of the local committee on arrangements are Drs. Roberta Fenlon, S. M. Watts, A. Justin Williams and John B. Schaupp.



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Potential Screening Method Described For Lung Cancer

A potential screening test for lung cancer was described by two Baltimore researchers in a scientific journal of the American Medical Association.

It might be possible to discover some cancer cases earlier by means of a simple test of the skin's electrical resistance, a technique currently used to map denervated skin areas, according to James F. Fries, a senior medical student, and Curt P. Richter, Ph.D., professor emeritus of psychobiology, Johns Hopkins University.

Writing in the May *Archives of Internal Medicine*, they said thousands of routine skin resistance tests at Johns Hopkins over the last 20 years revealed "striking patterns" in a number of patients with chest tumors, particularly lung cancer.

Skin areas of relatively high and relatively low resistance can be mapped by means of the test, according to the report. Relatively high resistance indicates denervated areas and certain patterns of denervated areas are believed to result from an underlying cancer.

The technique consists of measuring and recording resistance of the skin to a minute direct current. The current is transmitted by electrodes attached to a machine that indicates the degree of resistance, called a dermometer.

The test is quick, inexpensive, and causes no discomfort, the researchers pointed out. A mapping for screening purposes may take only 10 minutes. The equipment is portable and can be operated by a single technician.

"We have found lung tumors to cause four main types of patterns which are quite specific . . . as well as other abnormal patterns which cannot at present be considered specific," the authors said.

Of 37 patients with previously proved lung cancer, satisfactory records were obtained on 33 and 21 of these showed one of the specific skin resistance patterns, they reported. None had a completely normal pattern.

In one of these patients, the researchers added, "the pattern was so clear-cut that we are certain that the diagnosis could have been made at least six months and more likely a full year earlier by use of the skin resistance method."

Another group of 35 patients with a variety of diagnosed and undiagnosed chest diseases was screened for lung cancer by the skin resistance method, but only one showed a pattern characteristic of lung cancer. No diagnosis of cancer has been made in this group. However, the researchers pointed out that over a longer follow-up period, some of the patterns might prove to be due to cancer.

"It appears that the best results may be obtained with tumors of the upper lobes and apices, loca-

(Continued on Page 30)

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Potential Screening Method Described For Lung Cancer

(Continued from Page 16)

tions which have proved troublesome with some other procedures," the authors concluded. "False positives appear to be infrequent with this method.

"Should it prove true that all, or nearly all, lung tumors show at least nonspecific abnormalities of skin resistance early in their course, use of the skin resistance method as a screening test would give a smaller number of patients for more elaborate evaluation by other methods as well as being diagnostic in patients showing definitive patterns.

"Obviously, the satisfactory evaluation of a new method requires a large-scale experimental design in which skin resistance studies would be ordered at the same time as bronchoscopy and cytology in every patient with suspected bronchogenic carcinoma, and the results tabulated with regard to immediate results and long-term follow-up.

"We believe . . . that the potential of the skin resistance method is great and that large-scale studies may prove it to have a definite place among the battery of procedures used in the detection and diagnosis of tumors of the lung."

The authors did not compare skin resistance with other methods of diagnosis. However, they said lung cancer, now the most common malignancy in man, on the average is not diagnosed for three months to a year after the onset of symptoms and improved methods of diagnosis are needed.

Promotion of Digestive Enzymes Termed 'Deplorable'

The promotion of nonprescription digestive enzymes for oral use is "deplorable," according to Philip L. White, Sc. D., secretary of the AMA Council on Foods and Nutrition.

Fanciful claims are made for these enzyme preparations but most, if not all, are either false or so exaggerated, they are meaningless, Dr. White wrote in the May AMA-published *Today's Health* magazine.

There is no acceptable evidence that digestion is improved in the normal person by the use of supplementary enzymes, nor is there evidence that reduction of digestive capacity with age results in impaired digestion as claimed or implied in the sales promotion of these products, he added.

"Unless tissues which produce digestive enzymes are diseased or have been removed surgically, no purpose is served by the ingestion of oral digestive enzymes," Dr. White concluded. "The digestive capacity of the human being greatly exceeds the demands put upon it."

"This kind of promotion of nutritional products requires self-diagnosis and self-medication and is deplorable."

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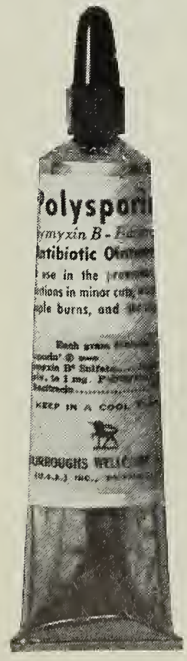

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CANCER STUDIES

The Diagnosis of Cancer — Radiology

L. HENRY GARLAND, *M.B., M.D. (Hon.)*, San Francisco

THE DIAGNOSIS OF DISEASE depends on the time honored quatrad—inspection, palpation, percussion and auscultation. Radiologic examination is essentially inspection—of the shadows produced by macroscopic tissue changes or the concentration of radioisotopes in these tissues. Its place in the diagnosis of cancer might therefore be greatest in connection with tissues not amenable to ordinary visual or direct inspection, that is, tumors of nonaccessible sites. In clinical practice it is obviously a tool of modest potential as far as microscopic or early cancer is concerned. A tumor only 1 cm in diameter is sometimes regarded as an "early" cancer although it is apt to contain some 60 million cells, and may have taken from three to seven years to reach that size. If not already spread via vascular or lymphatic channels, it should still be localized and curable. However, it is not early—and should not be so designated. *Localized* cancer is often curable—whether it is "early" or "late."

The public has acquired an undue estimate of the efficacy of radiologic examination in the detection of cancer, and understandably does not appreciate the nonspecific nature of many of the changes found at such examination. As a result, there is sometimes an excessive demand for x-ray examination, and a disappointment that the test is not specifically conclusive. One portion of the cost of diagnostic medical care will drop with dissemination and appreciation of these simple facts concerning radiologic limitations—especially insofar as truly curable cancer is concerned.[7,8]

COMMON TUMORS OF ACCESSIBLE SITES

Skin. The place of radiologic examination is nil except in the case of advanced or deeply infiltrating lesions with bone invasion or lung metastasis. Suitable bone-detail films and chest roentgenograms will then be indicated.

Lip and Oral Cavity. Similar remarks pertain, except in the diagnosis of alveolar ridge and floor of mouth tumors, where even small lesions may merit mandibular or maxillary bone-detail studies. Tonsillar lesions often metastasize to lungs: stereoscopic chest roentgenograms should be made before definitive treatment.

Thyroid. X-ray examination contributes little to definitive diagnosis of the local lesion. In some instances of solitary thyroid nodules, scintillation scanning of the thyroid area following ingestion of small doses of radioactive iodine may strongly suggest the possibility of cancer. Nodules demonstrating an affinity for iodine are usually not cancers. Those demonstrating no such affinity (so-called "cold" nodules) or those showing decreased ability to concentrate iodine may be malignant. Occasionally an unsuspected (non-palpable) "cold nodule" may be dis-

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Clinical Professor of Radiology, University of California, San Francisco General Hospital, San Francisco.

To appear as part of the revised Cancer Studies.

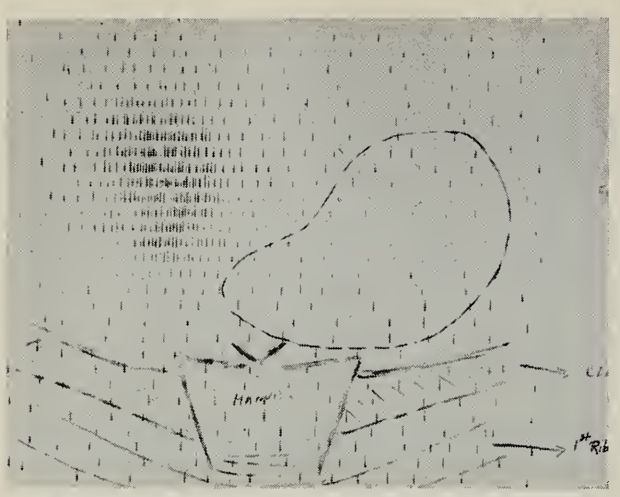


Figure 1.—*Tumor, Thyroid, Solitary.* Scintigram of anterior neck region of adult female with palpable left thyroid mass. Scan made approximately 24 hours after ingestion of 50 microcuries of I 131. Note the absence of radioactivity on the left side. The oval outline of the palpable thyroid mass is shown. Operation disclosed a papillary carcinoma.

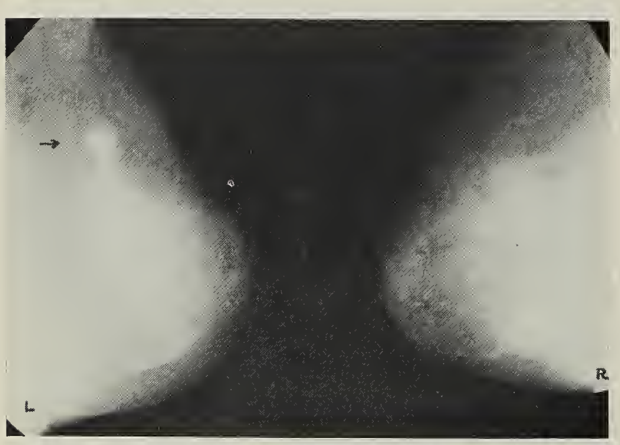


Figure 2.—*Tumor, Breast, Solitary.* The patient was a woman 72 years of age without palpable mass in either breast. Survey mammograms show 15 mm diameter opacity in upper half of left breast. This has stellate borders and probable punctate calcifications. It was not palpable until after skin incision. Biopsy showed scirrhous carcinoma. Right breast x-ray negative. (This is an unusually well demonstrated "silent" tumor according to Dr. D. J. Sayles. Mammograms permit the detection of some breast cancers at an earlier stage, but whether early enough to significantly improve the curability rate is doubtful.)

covered by this method. Patients with thyroid masses should, of course, have thorough radiologic study of the lungs as part of their general examination. Bone surveys are rarely productive in the absence of symptoms.

Breast. Radiologic examination of the breast has undergone a resurgence of interest in recent years.[1] With experience and meticulous attention to detail, unsuspected tumors as small as 3 mm in diameter have been correctly diagnosed by x-ray films of the breasts made in two or three planes. Such mammograms are perhaps of most potential use in periodic examination of the remaining breast after mastectomy. Their value as part of the annual physical examination of women over 45 is under study.

In most women suspected of harboring breast cancer a preoperative survey of such extramammary structures as the lungs and central skeleton is advisable. This may be performed with reasonable efficiency and economy via slightly overpenetrated posterior-anterior and lateral chest films, plus standard lumbosacral-pelvis films. In most women, four 14 x 17 films are therefore adequate. However, if symptoms suggest metastatic lesions in these or other sites, appropriate stereoscopic, oblique and other films should be made. Bowel gas overlying lumbar spine and pelvis may obscure or be mistaken for osteolytic metastasis. Radiologic evaluation and consultation is indicated.

Uterus. Roentgen examination plays a negligible part. For patients with clinical Stage III or IV cervix cancer, excretion urograms are vaunted. But they seldom change the therapeutic program, and are more of theoretical than of practical value as a baseline. For patients with corpus cancer, hysterograms had a long vogue but their utility is small. The most useful radiologic procedures are (a) chest studies to rule out silent metastasis, and (b) in the presence of pelvic pain or backache, pelvic stereograms to detect bone invasion. Arteriography, venography and lymphangiography have little use in everyday clinical practice.

Rectum. X-ray examination has a modest place after digital and visual examination of the rectal area. Colon x-ray studies may be indicated to exclude lesions elsewhere in the large bowel. The place of general radiologic bone surveys is regarded as nil in the case of asymptomatic patients with uterine and rectal cancer—the yield is negligible.

Prostate. X-ray surveys similar to those for breast tumors are advocated before definitive treatment is begun (chest and thoracic spine; lumbosacral spine and pelvis). In the presence of symptoms, more detailed study of the apparently involved structures is indicated. Paget's disease should not be mistaken for prostatic metastasis; radiological consultation should be used.

COMMON TUMORS OF NONACCESSIBLE SITES

Colon. The place of radiologic examination in tumors of the colon is well established. Careful cleansing (in most adults, 2 ounces of castor oil at 4 p.m. on the day before examination), fluoroscopic examination and adequate overpenetrated roentgenograms constitute the basic procedure. The various flexures may be "unfolded" at fluoroscopy; if fecal matter interferes in the distal colon, evacuation and immediate refilling may be found effective—saving the patient another bout of catharsis, as well as a day

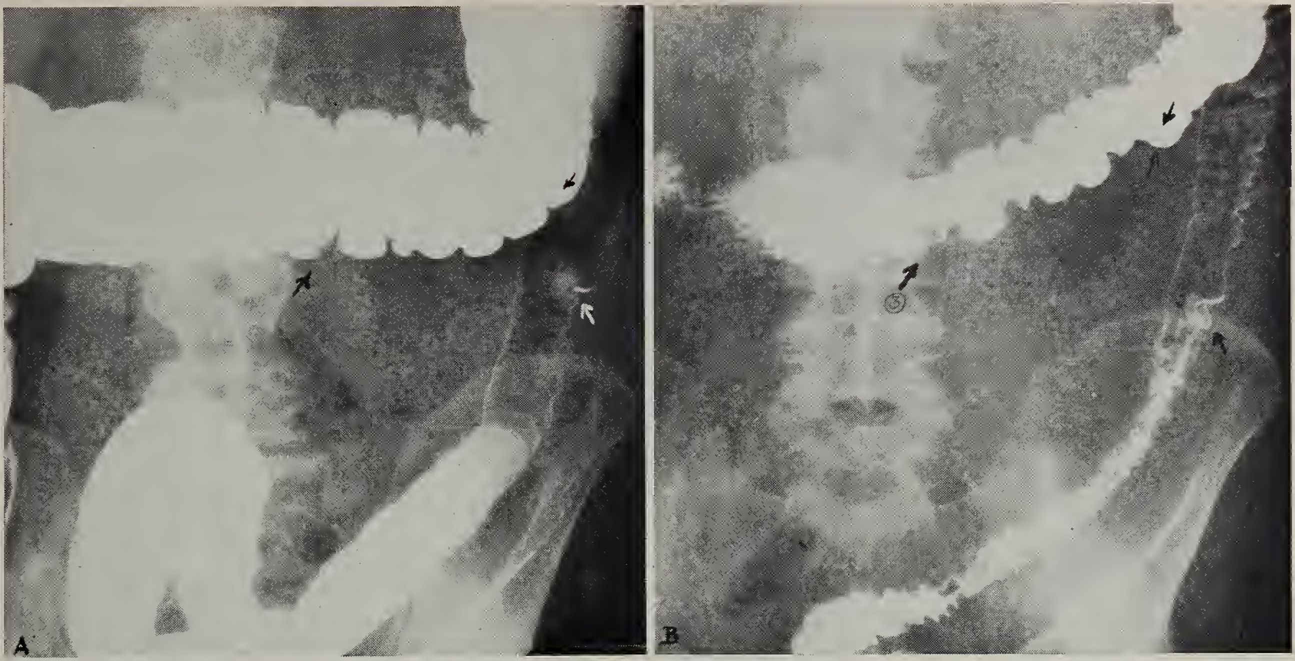


Figure 3.—*Tumor, Colon, Multiple.* The patient, a 60-year-old man with minor rectal bleeding, had had proctoscopy which showed probable polyp at rectosigmoid junction. On barium enema, four filling defects, ranging from 4 to 12 mm in diameter were visible on the original films. Three of them are shown here, but one near the rectosigmoid, presumably the one visible at endoscopy, is not visible in this reproduction. The radiologic diagnosis is sessile polyps. Operation diclosed four benign adenomas.

lost from regular duties. In selected cases, air-contrast may usefully follow the barium study. The use of silicone gel rectosigmoid casts is being explored.

Marginal filling defects may be sessile or pedunculated; annular filling defects may be single or multiple. Any may show ulceration. Rarely, perforation and fistula may be shown. The finding of one lesion should spur search for others. Polyps tend to be multiple.

Any polyp or polypoid tumor may be an adenoma or a carcinoma. Those that are accessible should yield readily to microscopic study; those that are not should be evaluated in the light of their probable gravity. Most colon polyps are multiple. Complete removal of them may be difficult and entail greater hazard than their presence.

The polyp-cancer hazard may be considered as follows: Approximately 6 per cent of persons of all ages have colon polyps (i.e. 6000 persons per 100,000 population); the prevalence of colon cancer is about 30 per 100,000 population; the true ratio of polyps to cancer, considering all ages, is 200:1.

If we consider only adults over age 50, the figures are as follows: Approximately 14 per cent of such adults have polyps (14,000 per 100,000); the prevalence of colon cancer in this age group is about 148 per 100,000 population; the true ratio of benign to malignant polyps in adults is therefore about 100:1,

In other words, even in this older age group, the chance of a given polyp being cancer is only about one per cent. Many pathologists question whether a benign polyp ever becomes malignant.

Small polypoid colon tumors (under 1.2 cm diameter) may double in size in from two to four months. It is believed by some surgeons that it is sound practice in selected cases to re-examine poor surgical risk patients at intervals of three to six months. In the absence of evidence of growth, most such lesions are and can be treated as benign adenomas.[3,9]

In the periodic roentgen study of bowel loops low in the pelvis, gonadal dosage can reach significant proportions: great discretion should therefore be used, especially in those under age 45. In females, potential fetal irradiation should also be considered. Radiological conference before examination is mandatory.

Lung. Primary bronchial cancer is one of the most readily detectable of nonaccessible tumors, manifesting itself directly (as a peripheral solitary nodular opacity), or indirectly (as a hilar mass, or an area of localized emphysema, collapse or infiltration). Tumors as small as 3 mm in diameter may be detected in rib-free lung, or as large as 3 cm may be obscured by bony or mediastinal shadows. In either event, the biologic nature of the lesion is not revealed. Many minute tumors have already metastasized; some large ones have not.

Radiological examination of the lungs may be of survey type (posterior-anterior and lateral); or detailed (stereoscopic posterior-anterior, lateral, oblique, lordotic and overpenetrated). In selected cases it may involve tomography, bronchography

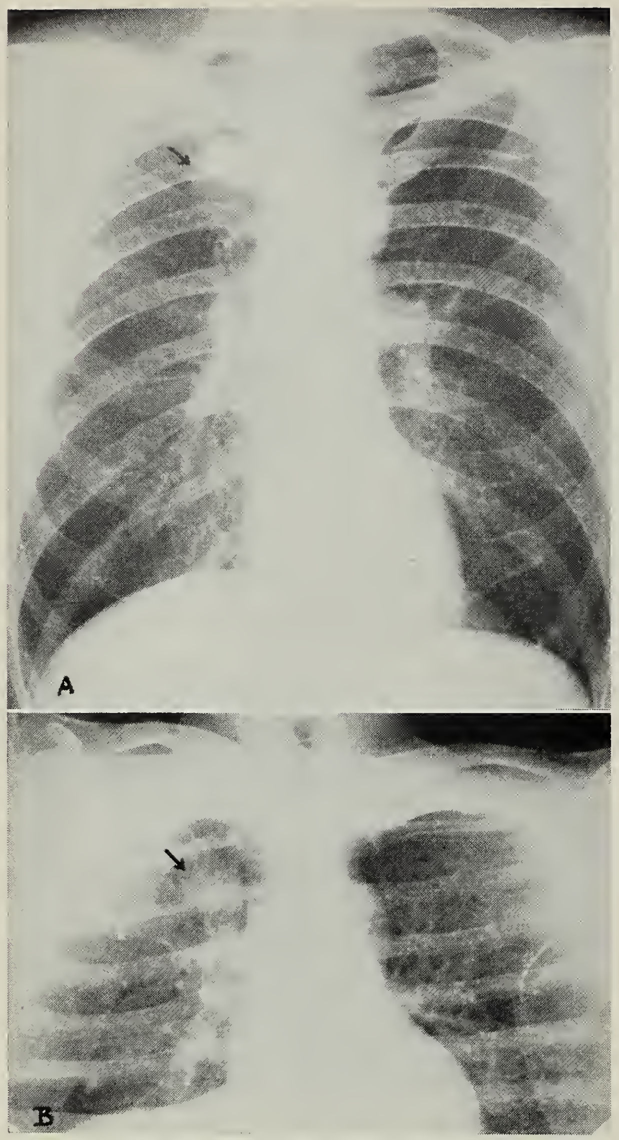


Figure 4.—*Tumor, Lung.* The patient was a man, 53, without pulmonary symptoms. Posterior-anterior chest x-ray (A) shows 3 cm diameter oval opacity in the apical segment of right upper lobe. This is shown more distinctly in anterior-posterior lordotic view (B). At the initial x-ray examination stereoscopic views confirm the fact that the lesion is solitary; it has slightly hazy cephalic and caudal margins; heavy-density films reveal no calcium. The roentgen diagnosis therefore is probable tumor (primary, possibly malignant). Stomach and kidney studies disclosed no lesion. Operation revealed an adenocarcinoma, with metastatic nodes.

and arteriography. Esophagograms may be useful. Thoroughness is rewarded with refinement in diagnosis.

Over a decade ago, Sante observed that the detection of most small lung tumors would require chest films to be made of adults every three months. "If conducted on a mass scale this would soon become one of the principal enterprises of the nation." Further, the benefit in terms of curable disease would be small—leading perhaps to a survival rate twice the optimal figure of 6 per cent at five years. The morbidity and mortality of the mass thoracotomy program involved might be not inconsiderable.

Annual chest x-rays of males over age 45 do give a modest improvement in yield of curable lesions, especially if the persons who have the lesions are motivated to accept prompt surgical operation. This motivation is often lacking in persons attending impersonal centers or clinics.

The incidence of primary lung cancer in California is estimated to be about 60 per 100,000 persons per annum in males, and 10 in females. The yield in mass surveys of males over 45, with x-rays repeated every six months is approximately as follows:

Tumor suspects on survey minifilm	1000 per 100,000 males, per annum
Tumor suspects on subsequent standard films	500 per 100,000 males, per annum
Verified bronchogenic cancers	50 per 100,000 males, per annum

In adult males, about 10 per cent of solitary nodular lung shadows are due to carcinoma. By paying attention to several details connected with such shadows, a high proportion of them can be correctly diagnosed preoperatively. This encourages prompt operation for those with cancer, and wisely obviates it for those without. The method consists in thorough radiologic examination at time of nodule detection, brief clinical examination, and (in young males and in females) certain laboratory tests[2,6] (see Chart 1).

It is of course always advisable to complete the general examination of the person in whom lung tumor is suspected. The pulmonary lesion, even though solitary, may be metastatic. Roentgen survey of stomach, colon and urinary tract may be indicated, especially in the presence of certain signs and symptoms. Such a survey may obviate undue or premature treatment of what is actually a metastatic tumor in, rather than a primary tumor of, the lung.

Stomach (and upper gastrointestinal tract). Radiologic examination permits detection of macroscopic tumors in these sites. The basic examination includes fluoroscopy and radiography by persons with training and experience in the procedure. Any "silent" area, ulceration, mass or unusual configuration merits careful attention. The majority of penetrating gastric ulcers can be correctly diagnosed radiologically. They are not precancerous lesions. Conversely, most ulcerating gastric tumors can be correctly diagnosed by an experienced radiologist. However, periodic assessment of the apparently simple gastric ulcer is sensible: if it does not decrease by about one-half at the end of four weeks of medical care, and by more than three-fourths after eight weeks

Name
Address
Date
(In using chart, please follow systematic steps listed by Garland, L. H., Chi. Med. Soc. Bull., April 12, 1958.)

Radiological	Margin
	Strands
	Calcium
	Prev. Films (change)
Clinical	Age
	Sex
	Symptoms
	Thor. Surgery (recent)
Laboratory	Tuberculin test
	Coccidioidin test
	Histoplasmin test
	Sputum cytology

Conclusion*:

Disposition:
Final Diagnosis and Date:

*Index under: B. (Benign), M. (Malignant), or U. (Unclassified).

Chart 1. — Three-Step Chart For Solitary Pulmonary Nodule Identification.

of such care, additional procedures are merited (repeat gastric analysis; cytologic examination and, sometimes, endoscopic inspection).

Gastric polyps, like colon polyps, are nearly always benign. However, the single roentgen examination cannot correctly differentiate the smooth benign adenoma from the smooth carcinoma. Gastric polypoid tumors that are lobulated, ulcerated or attached by a broad base, are more often malignant than are others. Air contrast may usefully supplement standard barium studies.

The value of radiologic examination in the detection of curable cancer of esophagus, stomach or small bowel is very small, because of the intrinsic grave biologic potential of these tumors.

Bladder. Radiologic examination plays a minor role, chiefly to assess the status of the upper urinary tract and the pulmonary filter bed.

Ovary. Radiologic examination plays a minor, but useful, role—plain films of the abdomen for possible masses; barium enema to detect gross colonic involvement; and films of the chest to examine the lungs and mediastinum. A few ovarian tumors produce opaque metastatic lesions (calcific psammoma bodies and necrotic areas) which may be detected in a silent phase.

Space does not permit consideration of the useful place of radiology in the diagnosis of tumors in less common sites—notably the upper urinary tract, the central nervous system, the osseous system, and the lymphatic apparatus. Radiologic consultation is widely available and will provide such information. Contrast urography and myelography are simple and often valuable procedures. Dual reading of roentgenograms in cases in which bone tumor is suspected is warranted. Lymphangiography is a time-consuming but occasionally rewarding procedure.

SUMMARY

Radiologic examination is of use in the diagnosis of cancer in many different ways, but especially as follows:

As a preoperative procedure in breast and prostate tumors (x-ray survey of lungs, spine and pelvis);

As a routine procedure in colon bleeding or obstruction (single contrast barium enema, at least initially);

As a routine procedure in adults over 50 with achylia (gastric x-rays);

As a regular procedure in adults over 50, notably males (chest x-ray examination).

However, its value in the detection of localized or curable cancer in asymptomatic persons should not be exaggerated. As the chief of a large university hospital cancer detection center observed, even with radiology "most internal visceral cancers are not diagnosed appreciably earlier than if patients wait for the development of signs and symptoms."[10] Two visceral exceptions are colon and lung. With silent lesions of the colon, careful radiologic examination is not infrequently rewarding. With silent pulmonary lesions, it may be rewarding in terms of detection, but only occasionally in terms of curable tumor detection.

For most accessible cancers (excluding those of the breast and thyroid) there is little need of radiologic procedures for detection. Mammograms and scintigrams have modest value in the two sites specified.

450 Sutter Street, San Francisco, California 94108.

REFERENCES

1. Chavanne, G. and Gregoire, A.: Diagnostic radiologie des tumeurs de la glande mammaire, J. Eturiants de la Faculte de Medecine de Louvain, Tome 15, 1956.

2. Garland, L. H.: The differential diagnosis of solitary pulmonary nodules, Chi. Med. Soc. Bull., April 12, 1958.

3. Garland, L. H.: The ratio of benign to malignant polyps of the colon, Kansas City Clinical Society, 1948, unpublished.

4. Garland, L. H.: Radiology in the diagnosis of curable cancer, J. Kansas City Med. Soc., Supplement, August, 1950.

5. Garland, L. H.: Cancer detection: The present status, Calif. Med., 84:122, 1956.

6. Garland, L. H.: Detection of carcinoma of the lung, Am. J. Roent. & Rad. Ther., 74:402, 1955.

7. Garland, L. H.: Cancer diagnostic centers, Med. Press., 7, 9, 58, July 9, 1958, p. 653.

8. Schwartz, G.: The cancer disenchantment, Med. Sci., June 10, 1957.

9. Spratt, J. S. and Ackerman, L. C.: Treatment of polyps of colon as benign lesions, Current Surg. Management, II: 37, 1960, W. B. Saunders Company, Philadelphia.

10. Sullivan, W. A. and Lunseth, J. B.: Cancer Detection Center Reports, Univ. of Minn., Minneapolis, Minn., 1957.

CANCER STUDIES

Surgical Treatment of Malignant Disease

LEON GOLDMAN M.D., and MAURICE GALANTE M.D., San Francisco

EACH YEAR in the United States cancer develops in 450,000 persons two-thirds of whom die within five years of diagnosis and one-third are cured. The advent of chemotherapy within the past ten years has opened a new field of research and offers new hope for a "magic bullet" cure. However, despite the fact that 50,000 compounds are tested yearly, no chemotherapeutic agent has been found yet which will cure cancer. Until effective anti-cancer drugs are developed, surgical operation and radiation therapy will continue to be the most effective treatment of malignant disease.

Early Diagnosis

To be successful, operations for cancer must be performed when the disease is localized within the confines of the surgical field. Hence early diagnosis is necessary. Although the eventual length of survival depends to a great extent on the nature and biological activity of the particular malignant tumor, it is obvious that delay in diagnosis and therapy permits dissemination of the malignant lesion locally, by the bloodstream or by lymphatic channels.

A delay in diagnosis may be the fault of the patient or the physician. The patient may put off medical consultation because of various misconceptions about the nature of cancer such as that it is always painful, or he may be reluctant to mention what he considers minor complaints. His delay in seeking advice may be the result of fear, or the belief that cancer is incurable and that the medical profession cannot help him.

Delay in diagnosis on the part of the physician stems from a lack of understanding of the importance of even the most minor symptoms such as transitory episodes of hemoptysis or hematuria, a slight cough or wheeze, or occasional bout of abdominal pain. The physician must understand the significance of all symptoms and complaints, and must examine the patient thoroughly until they are both satisfied that malignant disease is or is not present.

The importance of early diagnosis and its relation to cure and survival cannot be overemphasized. Brown[1] reported in 1960 a resectability rate of 69 per cent in patients with cancer of the lung that had been discovered by routine cancer detection examinations as contrasted to a resectability rate of 49 per cent for cases diagnosed because of definite symptoms. In the first group of patients the five-year survival rate was 20 per cent; in the other it was 5 to 10 per cent. Similar figures have been reported for cancer of the breast, the gastrointestinal tract and other sites.

Biopsy

In the majority of malignant tumors biopsy should be performed before proceeding with definitive treatment. Modern techniques permit the preparation of frozen sections which so closely resemble permanent paraffin sections that a competent and experienced pathologist can usually give a definitive diagnosis during operation. The appropriate operative procedure can then be carried out without a second work-up and anesthetic. In some cases, however, such as in certain tumors of the breast, it may be impossible to establish by frozen section alone whether a tumor is or is not malignant. In such cases it may be preferable to postpone definitive operation until the pathologist has had opportunity to interpret the permanent paraffin sections.

The definitive method of biopsy has not yet been established. Some experienced clinicians prefer incisional biopsy in spite of the risk of spilling cancer cells, and others elect to perform an excisional biopsy with its attendant danger of cutting through lymphatic areas. The method of biopsy should be adapted to the particular case and, in fact, the type of biopsy is usually not important provided definitive operation is not delayed. However, incisional biopsy is contraindicated in certain tumors such as bone sarcomas, in which there is great danger of disseminating tumor emboli.

The authors' experience with needle biopsy has been disappointing. One major objection to this technique is the risk of breaking the capsule of well encapsulated tumors. Many reports have appeared of cancer growing along the tract made by a needle, particularly in thyroid and breast tumors or other tissues which are easily accessible surgically.

To appear as part of the revised Cancer Studies.

Exfoliative Cytology

Exfoliative cytology has been of immense value in the early detection of cancer of many organs. Most pathologists today have been trained in the technique of interpretation of cytologic smears. The survival rate of patients with certain gynecological carcinomas has been substantially improved by early detection of cancer of the body of the uterus or cervix. The location of certain bronchogenic carcinomas may be such that a biopsy specimen is unobtainable; in such instances cytologic investigation may be the only means of establishing the diagnosis histologically before operation.

Dissemination of Cancer by Operation

The danger of dissemination of malignant cells was recognized early in the history of cancer surgery. Implantation of tumor cells frequently occurs, not only in the local area of resection (which may possibly be due to incomplete excision) but also in areas remote from the primary site. Viable free cancer cells, notorious for their lack of mutual cohesiveness compared with normal cells, may be disseminated from an ulcerated tumor or during biopsy by the trauma of the operation. Moore[7] pointed out this danger in unequivocal terms in 1867 when, referring to breast cancer surgery, he said: "In the performance of the operation, it is desirable to avoid not only cutting into the tumor but also seeding it; no actual morbid structure should be exposed lest the active microscopic elements in it should be set free and lodge in the wound. Diseased glands should be taken away by the same dissection as the breast itself without dividing the intervening lymphatics."

To control the spread of cancer by implantation many techniques have been devised, ranging from early methods involving application of carbolic acid,[3] alcohol, formalin and other chemicals,[4] to the more recent and more modern chemotherapeutic agents—monoxychlorosene[5] (Clorpactin®) nitrogen mustard[12] and others—but the ideal anti-tumor agent has not been found. Meticulous and careful surgical techniques still remain the most effective means of preventing dissemination of cancer cells. These will be discussed in the section on radical surgical operation.

Local anesthesia is usually contraindicated in extirpative cancer operations, mainly because of the danger of disseminating malignant cells into blood vessels and lymphatic channels by the infiltration of the anesthetic agent. Moreover, the magnitude of the surgical procedure often renders local anesthesia highly impractical.

Surgeons have been aware for many decades that patients with cancer often have freely circulating tumor cells within the vascular system. However, only recently has the influence of this phenomenon upon the survival of the patient been recognized. Often, large numbers of tumor cells and emboli have been found within veins draining the primary site and the numbers have increased in showerlike fashion following manipulation of the lesion during examination or at the time of operation. Therefore, the advisability of repeated examinations by several physicians, prolonged preoperative preparation of the operative field with various detergents or soap and water, or tight packing of tumor-bearing organs is highly questionable. Animal experiments carried out by several investigators have demonstrated that massage, needless manipulation, incision or incomplete removal of a tumor results in an increase in the number and the size of metastatic lesions.

Relationships of Tumor Immunity To Cancer Operations

Several well documented clinical studies have suggested that in certain patients with cancer there exists a host defense mechanism which inhibits the growth of the lesion. Some of the most outstanding and most often quoted substantiating examples of this are: 1) the pronounced variation in the clinical behavior of cancer even within a single histopathologic type and within groups of patients who are of the same sex, age or race; 2) the infrequent cases of spontaneous regression of established tumors; 3) sudden appearance of metastatic lesions many years after successful treatment of the primary tumor; 4) the frequent finding of tumor cells in the washings of operative wounds, in veins draining the tumor site and in peripheral circulation, without the development of local recurrence or distant metastasis; and 5) the low incidence of successful autotransplants of tumor tissues in cancer patients.[8,9,10] The mechanisms underlying these examples of host resistance to cancer are unknown. That such host defenses are immunologic in nature is an attractive hypothesis, but there is really no concrete evidence to prove or disprove such a supposition.

Whatever the mechanism, there is little doubt that host defense factors are important in the development and progression of human malignant disease and that they considerably affect the results of surgical treatment. Mechanical removal of every single cancer cell from the body is difficult or impossible except in early lesions, but this does not necessarily mean therapeutic failure. Indeed, from a practical standpoint it is of little real significance, since at this time there are no known means of bolstering host defenses and it is impossible to determine in a given patient whether tumor cells left in an operative wound will survive or be destroyed by host defense factors. Clinical and animal studies[2,10] have shown that immunity to cancer is not absolute, but is relative in quantitative terms to the number of tumor cells inoculated. Therefore, we must continue to make every attempt to leave behind as few cancer cells as possible by the use of careful surgical technique. This has been demonstrated clearly by Cole and coworkers[11] who have shown that careful attention to details of technique which decrease operative wound contamination has completely eliminated anastomotic recurrence in carcinoma of the colon.

"Curative" Operation

Prophylactic Operations. There are many kinds of lesions that are often judiciously removed to prevent the possible development of uncontrollable malignant disease. Such lesions include leukoplakia of buccal mucosa, gastrointestinal polyps, junctional nevi, carcinoma *in situ* of the cervix, gastric ulcers that fail to heal, and solitary nodules of the thyroid gland.

Radical Operations. A thorough knowledge of the characteristics and pathophysiology of each kind of malignant lesion is essential in the choice of operative procedure. Most errors in the treatment of malignant disease are the result of a failure to apply the most radical surgical procedure at the earliest possible time. The surgeon must not be unjustifiably conservative in order to preserve function or cosmetic appearance. It is generally true that the earlier a lesion is detected the more radical should be the procedure, provided that it is compatible with life. For tumors that are treated surgically, the classic cancer operation is indicated: removal of the primary lesion with adequate surrounding normal tissue, regional lymph nodes and intervening lymphatic chain, keeping in mind the proper preservation of function in such a way that the patient may live a dignified life, free as far as possible from discomfort and pain. Radical mastectomy for cancer of the breast, abdominoperineal resection for cancer of the rectum and certain forms of combined resections for intraoral carcinomas are examples of classic radical operations.

Performance of the classic radical operation requires strict observation of several sound surgical principles, the violation of which jeopardizes the chances of a complete cure:

- Gentle handling of the tumor-bearing area during operation to minimize dissemination of malignant cells.
- Early ligation, close to the main trunks, of afferent and efferent blood vessels to avoid spread of tumor emboli into the bloodstream.[6]
- Ligation of hollow viscera (for example, the colon) at adequate distances proximal and distal to the tumor to prevent shedding of malignant cells within the lumen.
- Early interruption of lymphatic pathways before removal of the primary tumor.
- Irrigation of the operative field with distilled water or a chemotherapeutic agent to minimize the likelihood of local recurrence.
- Utilization of various measures to prevent contamination of the wound, such as changing contaminated instruments and gloves and attempting to avoid cutting across frank tumor.
- Electrocautery destruction of the surface of an ulcerated tumor such as occurs in patients with oral cancer.
- Utilization of surgically clean drapes to protect wound edges from contamination by cancer cells.
- Avoiding manual pressure over the tumor site in the process of cleansing the skin in preparation for incision.
- Utilization of frozen sections to determine whether the excisional margins of operational fields are free of tumor, as in carcinoma of the esophagus or stomach.

Ultraradical Operation. The value of ultraradical operation for tumors that have spread beyond the limits encompassed by the classical radical operation is very questionable; such procedures are of course valueless for tumors that spread early via the bloodstream, but they may occasionally be of some benefit in the extirpation of tumors that have spread widely locally, such as properly selected carcinomas of the rectum, cervix or vagina, where pelvic exenteration might be done. The surgeon should remember, however, that the value of ultraradical procedures such as total removal of the stomach with adjacent spleen, left lobe of the liver, pancreas, transverse colon and other structures has not been definitely established, and they are accompanied by a high mortality and morbidity rate even in the most skilled surgical hands. The wise selection of an ultraradical operation requires infinite surgical wisdom without influence of unjustifiable optimism. In addition, the transitory advantages that might be derived by the patient should be carefully weighed against the discomfort and deficits that follow operation of this kind—pain, loss of weight, dysfunction of diverted urinary and fecal streams, disturbance of physiological functions and mutilation. A surgical procedure should always permit a patient to live his life with dignity and with maximum comfort.

Palliative Operations. Sometimes it may be necessary to carry out a surgical procedure short of extensive radical operation even though it is obvious that the cancer has spread beyond the limits of the surgical field. Extensive ulcerated fungating carcinomas of the breast may be treated by simple mastectomy to avoid the pain and fetor associated with these infected lesions. Many carcinomas of the stomach, large bowel and rectum are removed to prevent the discomfort of intestinal obstruction or the loss of large amounts of blood and plasma. Occasionally, ultraradical operations such as shoulder girdle amputation or hemipelvectomy may have to be carried out to relieve the patient of an unbearably bulky and painful tumor which is confining him to bed.

The palliation that can be expected from such operations should last at least a few months; operation is not indicated if the operation itself is associated with a high morbidity and mortality rate.

Patient Rehabilitation

The surgeon's responsibility to the patient does not terminate with his discharge from the hospital but also includes follow-up examinations and rehabilitation. It is the surgeon's duty to assist the patient in overcoming the psychological and emotional problems of having malignant disease. Since these problems vary widely from patient to patient, rehabilitation should start preoperatively with an evaluation of the patient's personality and should continue postoperatively as the situation requires. It may often be of considerable help if the patient with colostomy following rectal cancer or various types of dysfunction following combined resection for intraoral cancer is introduced by the surgeon to another patient who has successfully undergone a similar operation and has made a satisfactory adjustment to an unavoidable but lifesaving situation.

The surgeon who undertakes the eradication of a malignant growth is obligated to make frequent periodic examinations in order to detect in its earliest stage any recurrence of the disease that might be amenable to further control by operation or other means. In addition, the authors believe that periodic follow-up examinations are invaluable to the surgeon in enabling him to evaluate first-hand the results and efficacy of his operative procedures and to prevent him from falling into a state of optimism not warranted by the results achieved.

U.C. Medical Center, San Francisco, California 94122 (Goldman).

REFERENCES

1. Brown, R. B.: Value of periodic examinations in detecting early lung cancer, Postgrad. Med., 27:312, 1960.

2. Klein, G., Sjögren, H. O., Klein, E., and Hellstrom, K. E.: Demonstration of resistance against methylcholanthrene-induced sarcomas in the primary autochthonous host, Cancer Res., 20:1561, 1960.

3. Lack, L.: Contribution to operative treatment of malignant disease of the larynx with special references to the danger of cancerous wound infection, Lancet, I:1638, 1896.

4. Mayo, W. J.: Grafting and traumatic dissemination of carcinoma in the course of operations for malignant disease, J.A.M.A., 60:512, 1913.

5. McDonald, G. O., Edmondson, J. L., and Cole, W. H.: Prevention of implantation of cancer cells in the wound by irrigation with anticancer agents, Am. J. Surg., 101:16, 1961.

6. McDonald, G. O., and Cole, W. H.: Tissue culture of cells recovered from the blood of patients with colonic and rectal cancer, Am. J. Surg., 101:11, 1961.

7. Moore, C. H.: On the influence of inadequate operations on the theory of cancer, Roy Med. Chir. Soc., 1:24, 1867.

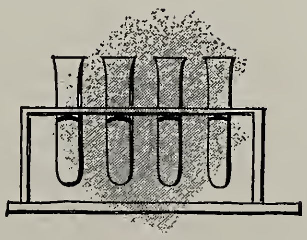
8. Moore, G. E., and Grace, J. T.: Cancer immunity, Surg. Gynec. Obstet., 110:234, 1960.

9. Southam, C. M.: Relationships of immunology to cancer: A review, Cancer Res., 20:271, 1960.

10. Southam, C. M., and Brunschwig, A.: Quantitative studies of autotransplantation of human cancer—Preliminary report, Cancer, 14:971, 1961.

11. Southwick, H. W., Harridge, W. H., and Cole, W. H.: Recurrence at the suture line following resection for carcinoma of the colon—Incidence following preventive measures, Am. J. Surg., 103:86, 1962.

12. Thomas, C. G.: Tumor cell contamination of the surgical wound: Experimental and clinical observations, Ann. Surg., 153:697, 1961.



Psychological Management of Childhood Asthma

SHELDON T. SELESNICK, ***M.D.,***[*] **DAVID BELAIS FRIEDMAN,** ***M.D.,***[†] **and**
BERNICE AUGENBRAUN, ***M.A.,***[‡] **Los Angeles**

• Over-emphasis on physical factors in asthma probably has come about because psychological factors have seemed elusive, difficult to define and often misleading. Several concepts of classic causes of emotional disturbances that abet asthmatic attacks in children may be helpful in management of the patient and his environs.

The first concept has to do with feelings of inadequacy in the mother which lead her to place the burden of decision-making upon the child. She is thus able to give the child very little support and communicates to him her anxiety. Often encouragement to the mother, through the physician's pointing out her very real capacities and achievements can be helpful to the child.

The second concept has to do with the asthmatic child's character structure and his assumption of a pseudo-mature position. Among the things the physician can do is to advise the parents as to what is age-appropriate behavior for the child and instruct them in ways to make the child recognize his position of dependence.

The third concept concerns threat of separation as a precipitant to the asthma attack. To deal with such a situation the physician may make a number of recommendations of methods for alleviating such a threat.

In some families, the degree of disturbance is so great that the parents cannot respond to the physician's advice and may need psychiatric referral. Clues for recognizing such a situation are given along with recommendations on how to make a successful referral.

IN A RECENT ARTICLE on the morbidity and mortality of bronchial asthma, it was pointed out that asthma occurs at a rate of 23 cases per 1,000 population and an estimated 6,000 deaths due to asthma occur annually in the United States.[8] In order to cope with this devastating illness, the practicing physician must acquaint himself with all aspects of the disease—emotional as well as physical. There has been a tendency to over-emphasize physical-allergic factors in the precipitation of the asthma attack. A partial explanation may be that physical factors are more exact and can be more readily scrutinized than can emotional factors, which are often presented in so vague and elusive a manner that they are not easily understood, or are presented in misleading form such as the concept of "maternal rejection." There is a sound body of psychological knowledge relating to the asthmatic child, and the purpose of this paper is to present one important segment of that knowledge in a readily usable form.

We assume that, for bronchial spasm to occur in an asthmatic attack, there must be a pulmonary predisposition brought about through constitution, heredity or early and frequent upper respiratory tract infections. Once this predisposition has been established, the exceeding of threshold that must precede an attack can be induced either by organic (allergic) or emotional factors alone. Most frequently it will occur through a facilitation by combinations of these two factors in various proportions. Therefore, it is pertinent to have in mind some sort of a psychosomatic model which, even though we lack complete knowledge of the physiological mechanisms, nevertheless represents a schema of the interrelationship between emotional and physical factors in bronchial asthma. Wittkower and White,[15] proposed that predisposed bronchi are influenced in various ways. An antigen-antibody reaction may trigger the release of acetylcholine and histamine. On the other hand, there may be stimuli (thoughts and feelings) arising in the cerebral cortex influencing the hypothalamic nuclei which cause the release of acetylcholine, histamine and 5-hydroxytryptamine. These two mechanisms, or processes of this sort, probably occur simultaneously and reinforce each other.

Historically, the presumption that emotional factors induce asthma attacks preceded the organic hypothesis. That man could be "choked up with emotion" or "breathless with excitement," were recognized in antiquity. It is well known that emotions of despair can be expressed through irregular respiratory acts such as sighing and crying. Even Hippocrates understood that there was a connection between asthmatic attacks and severe emotions. Not until the 1935 revision of Osler's textbook was "nervosa" deleted as a suffix to asthma. In fact, Sir William himself precipitated asthma attacks in patients sensitive to roses by presenting them with a picture of a rose, thereby emphasizing that mental imagery could provoke an asthma attack in a person previously conditioned.

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[*] Assistant Clinical Professor (Psychiatry), University of Southern California.

[†] Associate Clinical Professor (Pediatrics), University of Southern California.

[‡] Casework Supervisor, Department of Child Psychiatry, Mount Sinai Hospital, Los Angeles.

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With the advent of studies in allergy in the early twentieth century, it appeared that the organic approach to the problem of asthma would be more promising. In the first decade of the century, the immunologists Dunbar and Wolff-Eisner had demonstrated the relationship between pollens, dander, dust and certain reactions, and Arthus had called attention to a localized tissue response to injections. Von Pirquet grouped these effects under the label "Allergy" (Greek: other activity). Asthma came to be considered an allergic phenomenon and skin testing followed by desensitization became the accepted therapy. In the previous two centuries, the somatic approach had combatted the trend toward envisaging illnesses as due to a corruption of an *elan vital.* In the twentieth century, the organic approach again attempted to counteract the proposition that ideas, thoughts or feelings, which were considered akin to "vital spirits," could lead to disease.

Alexander, French and their coworkers[1] offered a possible solution to the mind-body dilemma. They conducted a careful psychoanalytic study of 27 asthmatic adults and children, between 1937 and 1941.[2] Although cognizant of the allergic predisposition of their asthmatic patients, these investigators emphasized specific psychodynamic factors relevant to the onset of asthma attacks. Weiss in 1922,[14] after an analysis of one asthmatic patient, had postulated that asthmatic episodes are precipitated upon separation from the mother. Alexander, French, and their colleagues observed that the asthmatic child was unable to resolve his dependency upon his mother, experiencing anxiety whenever there was a threatened separation from her. The asthmatic attack, then, represented a call for the mother in order to gain gratification for dependency yearnings.

The concept of threatened loss of maternal love may encounter objection as being too general, since it could apply to all children. It does not explain why asthmatic children are particularly susceptible to estrangement. Alexander concluded the chapter on asthma by stating that: "It is possible that the sensitivity to the 'separation' trauma and to allergens frequently appear together in the same person and are parallel manifestations of the same basic constitutional factor."[1]

In our studies,*[6,7] we have noted that the asthmatic child is particularly vulnerable to separation from his mother because of his early experiences with her. We reported that mothers of asthmatic children, due to disappointing relationships with their own mothers, seriously questioned their ability to render maternal care. Their feelings of inadequacy as mothers were sometimes reinforced by ungratifying relationships with their husbands. The asthmatic child, as a consequence, often received little security from his mother and was encouraged to erect defenses particularly to become a "little man" and to develop a pseudo-maturity to make himself feel more secure and deny his wishes for dependency.† When this minimal maternal support he was experiencing was endangered, as with threatened detachment from the mother, his defense became ineffectual and often an asthmatic attack occurred.[7]

Threat of separation from the mother would appear, from various studies,[2,6,7,9] to be the most specific psychological factor contributing to the onset of asthmatic attacks. By approximately six months of age, the infant is able to recognize the mother as a unique object. When the mother is established as the primary source of various gratifications, physical separation of withdrawal can evoke reactions of distress.[13] Normal separation anxiety, then, occurs at about nine months (the so-called nine months separation anxiety). Consistent with this is the increased frequency of first asthma attacks occurring in the latter part of the first year.

An objection to the separation anxiety concept is that often persons with intractable asthma, several investigators have shown,[4,10] are relieved when they are actually separated from their home environment. However, separation anxiety refers not only to actual separation, but to anticipatory anxiety or fear of separation. As in most anticipatory anxieties, once the fear evolves into reality there may be a lessening of the anxiety. Specifically the child who fears separation from a partially gratifying mother may be relieved when he is placed in an environment away from the mother and in association with unambivalent mothering persons.[11]

As the asthmatic child matures, his security may be most in jeopardy as he is threatened with separation, not from the maternal figure, but from the paternal one.

A boy of five in our study, who was known to be free of infection and had not been exposed, as far as was known, to allergens, was having repeated asthma attacks on Monday and Wednesday evenings. It was learned that the father had to work late on these particular nights. At this stage in the boy's development, he was fearful that his father would be angry with him, but was unperturbed if his mother showed disapproval of him. The father was advised to telephone the boy on these evenings, which he did, and in addition, he promised to come in and kiss the boy on his arrival home. The asthma attacks ceased abruptly.

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*These studies were conducted in the Department of Child Psychiatry, Mount Sinai Hospital, Los Angeles. Fourteen core cases of pre-school children with asthma were studied intensively in a nursery school setting for a period of about 2 years and followed up for an additional 2 years. Each child was treated by a child psychiatrist, the mothers were in treatment with psychiatric social workers, the fathers were seen by a member of the staff on a regular basis, and there was close collaboration between the pediatric and the psychiatric staffs. Medical care was handled by the families' own pediatricians and allergists according to individual regimens.

†Other investigators have noted the common occurrence in the asthmatic children of this particular defensive character structure.[2,8]

We have found that the asthmatic child forms extra strong bonds with friends and pets, and the threat of severance of these ties frequently immediately precedes asthmatic attacks.

Theoretical concepts come alive when translated into actual case material. Therefore we will outline the concepts we have developed and also our clinical recommendations and we will highlight the use of these concepts and recommendations with anecdotal material from family studies.[6,7,11]

Concept 1

Some mothers of asthmatic children feel inadequate in the mothering role. This feeling may stem from varied early experiences such as the lack of a model of an adequate mother and the consequent difficulty in forming a good feminine identification. The feeling of inadequacy may be reinforced by a hypercritical or nonsupportive marital partner. These mothers tend to depreciate their capacities and feel helpless to provide for the child. Typically, these mothers are very uncertain and hesitant in their approach to authority figures like physicians. Since they feel that the child is more adequate to know his needs than they are, they tend to place the burden of decision-making upon him. They are thus able to provide only minimal support to the child and communicate to him their anxiety and sense of helplessness. It is these feelings which interfere with their mothering rather than any overt anger toward the child.

An example is Joy, a three and a half year old child who was extremely controlling and refused to allow her mother out of sight. Joy's mother had experienced extreme separation anxiety. She was the only child of parents, each of whom had made several marriages before and after their marriage to each other. She perceived her own mother as incompetent and irresponsible. Joy's mother was placed in a children's institution where she remained for most of her childhood. Her mother rarely visited despite repeated promises to see her often. Joy's mother was an extremely sensitive, insightful young woman, acutely aware of the ineptness of her own mother, of the dangers in the world for an unprotected child, and distrustful of her ability to mother and protect Joy. She attempted to resolve the dilemma by giving Joy complete control. Any separation from Joy reactivated her own anxiety at the time she was left at the institution and made her fearful for the child's safety in the way she had been fearful for herself. Joy's asthma attacks aroused a deep sense of failure and confirmed her conviction that in some way she was not providing Joy with adequate mothering. Joy's father had been a sickly child who required considerable medical attention. He compensated for this by developing into a tough powerful person. He regarded his wife as his "child-bride" and emphasized her incompetence and ineptness by treating her as a small girl rather than supporting her strengths and abilities. In this way, he tended to foster her own conception of herself as inadequate to the demands of adult life.

Recommendations:

1. The mother can be provided with support by encouraging her in her role as a mother and by pointing out her very real capacities, achievements and potentials. One may stress those aspects of her child's growth and development which are healthy and normal. The physician can acknowledge the mother's feelings of inadequacy but can distinguish the difference between these feelings and actual inadequacy.

2. The mother can be encouraged to ventilate her feelings about the asthma attacks in order to elicit her sense of helplessness that may be aroused. She can be helped to accept her reactions by emphasizing their universality. When possible, the physician should reassure the mother as to the favorable prognosis for any given attack and give her specific medical suggestions so that she will be prepared to deal with emergencies and be less immobilized by morbid anticipation of attacks.

3. The mother can be helped to accept her anger toward the child by pointing out that one can be angry and still love. These mothers perceive their own mothers as primarily hostile and are frightened of repeating this hostility with their children. When the physician indicates to them that they also love, he thereby draws the distinction between them and their own mothers. This provides them with some sense that they need not repeat with their children their own terrifying childhood experiences. In this way, deeper levels of anxiety in such a mother can be reached without ever actually talking about her own early experiences in a way that might be inappropriate for the non-psychiatric physician.

4. The father can be encouraged to regard his wife in terms of her very real capacities and provide her with support in fulfilling her role as a wife and

mother. In Joy's family, for instance, at a time when the father was in a period of financial crisis, he was encouraged to ask his wife to go to work. The mother responded with a tremendous sense of pride in being asked to shoulder family responsibilities along with the father. As this mother became more aware of her ability to fulfill an adult role, the father increased his appreciation of her capacity.

5. Measures which will result in more gratification for the parents can be encouraged. The idea may be stressed that the parents have capacities for growth and development and are entitled to seek enjoyment for themselves.[3] Parents who are plagued with a sense of inadequacy tend to be very guilty about their children. They are fearful of leaving the child and going out for gratifications of their own. Their bondage to the child's illness can be relieved by emphasizing the inappropriateness of being limited in their satisfactions by the child's symptoms. This is important in helping the parents avoid the child's use of asthmatic symptoms to manipulate his parents.

Concept 2

The asthmatic youngster often defends himself against the wish to be dependent by assuming a pseudo-mature position. His assumed attitude of maturity and independence helps him avoid being confronted with his actual helplessness and his dependency upon a mother who is herself anxious and helpless. The child's vulnerability to separation anxiety stems from these circumstances. So long as he is in the presence of his mother and receiving some measure of maternal support, however minimal, he can maintain his defenses. Threatened with separation, however, the facade breaks down, anxiety emerges and, in our experience, the asthmatic attack frequently occurs.

Such a child will often seem remarkably grown-up for his age. He will appear to be quite independent of his parents and other adults to the point of openly refusing help with tasks that are too difficult for him. In the physician's office youngsters of this kind may be excessively brave in the face of injections and will often fight to hold back tears. If they do cry, they tend to react with anger and they evidence little ability to accept comforting.

The parents of such children often expect a superior order of achievement on the part of the child. This expectation has various determinants, one of which may be the mistrust of their own capacity to provide for the child described in Joy's family. Parents also may have a need for vicarious attainment of superior achievement through the child's accomplishments. The child endeavors to comply with the expectation of the parents and struggles to achieve beyond his age range. Finally, mothers who feel inadequate and helpless in their roles may themselves attempt to defend against these feelings by denying their own dependent needs as well as the child's. From such parents we have heard the claim that their children are "innately independent" or "born without the need for anyone else."

Barbara was a three and a half year old girl who was extremely bright, and precocious physically and mentally. Barbara, like Joy, attempted to control her environment and was domineering with adults and children. Offers of help or affection were responded to with "let me alone, I'm not a baby." Her excessive rejection of all offers of closeness was her method of avoiding the panic that accompanied admission of dependent need. Barbara's mother was also extremely controlling and aggressive. She tried to maintain a posture of adequacy and independence by being involved in constant activity. She feared being close to men and was hostile and depreciating toward all authority figures. She believed that no one could be of help to her and was determined to avoid frustration and disappointment by denying her need for others. She was unable to recognize her child's dependent needs since this would force her into the maternal role which she was certain she could not fulfill.

It must be stressed that mothers like Barbara's, while assuming a very different defensive position, nevertheless share with Joy's mother the same fundamental fears and anxieties about their ability to mother. Because of the nature of their overt behavior, a mother like Barbara's may be more difficult for the physician to handle. She will frequently be aggressive and demanding, suspicious that the physician is not giving adequate care. This stems from her distrust of the help that anyone gives her. Such a mother is especially difficult to deal with in the acute stages of the child's illness when deep concern for the child reactivates her basic distrust. Any physician would find it difficult to resist her provocation and avoid carrying out measures against her which ultimately might be detrimental to the child. For instance, it is inadvisable to order the mother away from her child during an attack of asthma, for this may aggravate the child's symptoms by increasing the anxiety of both mother and child.

Recommendations:

1. Age-appropriate behavior can be discussed with these parents. They need to recognize that the child's stance of miniature adulthood is incompatible with the basic needs. The parents can be advised to insist that the child accept help and comfort when this is appropriate. Some mothers are uncomfortable about cuddling or warm physical contact with their children, and to demand this of them would arouse

anxiety. They may be able, however, to undertake a less intimate activity such as a daily reading time with the child. This can provide a measure of closeness between mother and child without overtaxing the mother's capacity for intimacy. Mothers should be encouraged to engage the child in whatever ways are comfortable and unthreatening.

2. When the physician relates to the child, he can demonstrate his appreciation of the child's dependent needs. The youngster can be encouraged to express his fear when he is receiving an injection or undergoing an uncomfortable procedure. It is appropriate to grant permission for the youngster to cry. With these children a premium should not be placed on being "brave" or a "big boy." The child will often react by denying feelings of fear but he will nevertheless appreciate the physician's understanding, and these interchanges between physician and child enhance a trusting relationship.

3. The mother needs a similar understanding of her feelings of helplessness even when she is disguising them through provocative behavior. The physician may acknowledge that he is aware of how frightened she must be and how uncertain she is of the effectiveness of what is being done for the child. It is helpful for the physician to place himself in partnership with the mother, and to stress that family and pediatrician are a team oriented to relieving the child.

Concept 3

An attack of asthma is often preceded by a breakdown in the youngster's defenses against the fear of helplessness brought about by the loss of parental support. Events which represent such a loss can be one of the following: (1) An actual or threatened separation from one of the parents. The child who has been inadequately prepared for a departure may interpret the absence of a parent as an abandonment. (2) Open conflict between the parents. This may frighten the child through the implicit threat of the parents' estrangement from each other and thus one of them from him. (3) Overt anger between the child and one of the parents. If the parent becomes punitive toward the child, the more supportive aspects of the parent-child relationship are diminished. (4) Utilization of the child for the gratification of internal needs of the parent. Inappropriate use of the child such as the mother's view of him as a little man, negates the reality of his being a small, dependent child.

Greg was four years old and a severe asthmatic at the time of admission to our nursery school. He was the model of the tough, pseudo-mature little boy who caricatured masculine behavior until it resembled that of a gangster.

Greg's mother had repeatedly witnessed her own mother's masochistic submission to brutal attacks from her father. To defend herself against the repetition of this early situation, Greg's mother not only refused to submit to men but also adopted hostile, aggressive attitudes toward them. Greg's father was basically a passive man, with profound feelings of inadequacy, who achieved success by adopting behavior that caricatured the aggressive businessman. He was away from home a great deal and was severely critical of his wife. Greg's parents had only a minimal physical relationship. Greg witnessed their open conflict and threats of divorce. At times of great anger, the mother would leave the father for several days, taking Greg with her. The mother unconsciously saw Greg as "the only real man in my life," and turned toward him in a possessive and seductive manner, especially during times of conflict with the father.

Greg's attacks of asthma were carefully recorded over a period of time. Several occurred during periods when the mother had taken the boy to his grandmother's and then had absented herself for several days. Other attacks were preceded by a battle between mother and father when the mother would hastily pack a bag, take the boy with her and leave the house for a few days. On such occasions, Greg's symptoms often began in the car as the mother pulled away from the house. Periods when the father turned on him in anger were accompanied by asthmatic symptoms. These parents were able to calm down and provide some attention to the child apart from their needs during periods when he was ill. Hence Greg's attacks of asthma had the effect of enabling him to obtain some real parental care.

Recommendations:

1. The pediatrician can discuss with the parents the avoidance of sudden separations. The parents can be educated to prepare the child for separation by giving him ample warning and appropriate kinds of support. It may be necessary for a mother to leave a child with a relative for a few days. She can be instructed to prepare the child for this period and, if possible, to talk with him periodically by telephone. Parents can be similarly encouraged to prepare the child for the birth of siblings or to discuss other kinds of separations with him so that he has an opportunity to express his feelings. The child can participate in planning his own activities while the parents are away.

2. When separations repeatedly occur in the context of anger between the parents, the parents can be told how frightening this is to the child. If a parent does leave the home in anger, he should reassure the child that the anger is unrelated to him and that his relationship with the child remains secure.

3. While the physician may not be able to help some parents with their marital problems, he can discourage them from arguing in front of the child and using the threat of divorce.

4. The physician can encourage the mother to allow the child to talk about the things that make him feel guilty. This serves to reconcile parent and child and thus alleviate separation anxiety.

Psychiatric Referral

In families where there is no deep, psychological disturbance, parents will be responsive to instruction or direction from the physician. In Greg's family, the continual conflict was rooted in the psychopathology of the parents. It is very difficult for such disturbed parents to respond to educational approaches, no matter how cooperative they wish to be, because their own pathological needs and impulses continually reassert themselves. Families in which there is a great deal of resentment or rejection of the child may also require psychiatric assistance. Referral may be indicated, in addition, for the child who has a personality disorder or neurotic symptoms which may or may not be secondary to the asthma.

In making a psychiatric referral, there are certain points which should be kept in mind.[12]

1. The physician should attempt to avoid utilizing the referral to the psychiatrist as an expression of angry frustration toward the family. The psychiatrist should be seen as an additional resource rather than a punishment for recalcitrant parents.

2. The physician should not conceal the identity of the psychiatrist with euphemisms such as "nerve doctor" but should be open and direct in giving his reasons for making the referral. He can state directly that the family's problems are such that they require the attention of a specialist whose primary concern is with emotional difficulties.

3. The physician should be careful not to overrate the efficacy of the psychiatric interview, since the parents may then invest it with a great deal of magical expectation. They are bound to be frustrated and this may interfere with fruitful planning for psychotherapy.

4. The physician should give some indication to the parents of the nature of the psychiatric consultation. Intimate questions may be asked, and parents should be prepared to discuss openly the concerns which are interfering with the gratifying course of family life.

5. The physician should be careful to indicate to the parents that even if they accept the psychiatric treatment plan, they will not be a forgotten case as far as he is concerned. Parents will be reassured to know that the physician will continue active responsibility for the medical management of the child. They can then view the referral as part of a team approach in helping their child rather than as the shunting of a difficult case from one doctor's office to another.

Obviously all the considerations we have raised cannot be dealt with in a single visit. Nor will every patient fit the concepts we have discussed. Some clinicians will arrive at other meaningful aspects of the emotional contributants to the asthmatic episode. But we do feel they can serve as a guide and it is our hope that physicians will take full advantage of their many contacts with the asthmatic child and his parents to develop an understanding of the emotional components of this multi-faceted illness.

110 N. Hamel Road, Los Angeles, California 90048 (Selesnick).

REFERENCES

1. Alexander, F., and French, T. M.: Studies in Psychosomatic Medicine, The Ronald Press Co., New York, 1948.

2. French, T. M., and Alexander, F.: Psychogenic factors in bronchial asthma—Parts I & II: Psychosomatic medicine monograph IV, National Research Council, Washington, D.C., 1941.

3. Friedman, D. B.: Parent development, Calif. Med., 86: 25-28, Jan. 1957.

4. Jessner, L.: A psychosomatic study of allergic and emotional factors in children with asthma, Am. J. Psychiat., 114: 890-899, April 1958.

5. Little, S., and Cohen, L.: Goal setting behavior of asthmatic children and of their mothers for them, Jr. of Psych., 19:376, 1951.

6. Mohr, G. J., Selesnick, S., and Augenbraun, B.: Family dynamics of early childhood asthma: Some mental health considerations—"The Asthmatic Child." (Ed. Schneer, H.) pp. 103-118, Harper and Row, New York, 1963.

7. Mohr, G. J., Tausend, H., Selesnick, S., and Augenbraun, B.: Studies of eczema and asthma in the pre-school child. Paper read at the meeting of the Am. Psychiat. Assoc., May 1961. J. Amer. Acad. of Child Psych. (In Press)

8. Mustacchi, P., Lucia, S., Jassy, L.: Bronchial asthma—patterns of morbidity and mortality in the United States, 1951-1959, Calif. Med., 96:196-200, Mar. 1962.

9. Rogerson, Hardcastle, and Duguid: A psychological approach to the problems of asthma and the asthma eczema prurigo syndrome, Guys Hosp. Rep., 85:289, 1935.

10. Purcell, L., Bernstein, L., and Bukantz, S.: A preliminary comparison of rapidly remitting and persistently "steroid-dependent" asthmatic children, Psychosom. Med., 23:305-310, July-August 1961.

11. Selesnick, S.: Separation anxiety and asthmatic attacks related to shifts in object cathexes—"The Asthmatic Child." (Ed. Schneer, H.) pp. 182-204, Harper and Row, New York, 1963.

12. Selesnick, S.: Management of psychiatric problems by the dispensary physician, Armed Forces Med. Jr., Dec. 1955, pp. 1729-1739.

13. Spitz, R. A.: Anxiety in infancy: A study of its manifestations in the first year of life, Int. Jr. Psych., 31:138, 1950.

14. Weiss, E.: Psychoanalyse eines Falles von nervoesem Asthma, Int. Z. (artzl.) Psychoanal., 8:440, 1922.

15. Wittkower, E. D., and White, K. L.: Psychophysiologic aspects of respiratory disorders. In: Arieti, Silvano, ed.: American Handbook of Psychiatry. Basic Books, Inc., Vol. I, pp. 693-698, New York, 1959.

Maternal Deaths in California, 1957-1962

THEODORE A. MONTGOMERY, ***M.D., M.P.H.,*** **ARLINE LEWIS,** ***M.P.H.,***
and MARJORIE HAMMERSLY, ***B.A.,*** **Berkeley**

• During the period 1957-1962, the Committee on Maternal and Child Care of the California Medical Association and the State Department of Public Health studied 551 deaths of women who died during or within 90 days of termination of pregnancy. Of the 356 deaths from obstetric causes, 109 were attributed to abortion. Of the 195 deaths from non-obstetric causes, about one-half were considered by review committees to have been related to pregnancy.

CONTINUING STUDIES are being carried forward by the Committee on Maternal and Child Care of the California Medical Association and the State Department of Public Health with a view to identifying shortcomings in maternal care which, if rectified, can reduce the maternal mortality rate.

The following case illustrates the kind of problems encountered and provided a background for some of the Committee's recommendations:

Although the patient had been informed during her first pregnancy that she was diabetic, she did not consult her physician until the 12th week of her second pregnancy. She had been most casual about her insulin treatment and had not seen the physician in the eight months previous. At this first prenatal visit she had a 3+ reaction for sugar in the urine and 1+ albuminuria. However, she was not seen again for another six weeks; her visits then assumed a more regular pattern.

She went into spontaneous labor at 43 weeks and progressed rapidly to complete dilatation. Nitrous oxide-oxygen was first given, and then a pudendal block was done. In 15 minutes there was a convulsive seizure. Oxygen was given by the nurse and an anesthesiologist summoned. On his arrival five minutes after the convulsion, the patient was apparently dead. Pure oxygen was given without effect nor did thoracotomy and cardiac massage change the situation. A living child was delivered by low forceps and survived after ten minutes resuscitation. Cause of death on the death certificate was eclampsia.[*]

A regional committee of the Committee on Maternal and Child Care of the California Medical Association and the State Department of Public Health reviewed the foregoing case as a part of its study of maternal mortality. The members identified a series of patient and professional errors which contributed to the death of the mother:

1. The patient did not avail herself of medical supervision early in pregnancy, despite her knowledge of a complicating illness.

2. The physician did not follow up when the patient did not appear on schedule for prenatal care after her first visit.

3. No electrolyte studies were done although an imbalance was probable because of drugs administered.

4. An anesthesiologist was not on hand for the delivery. The choice of nitrous oxide was a poor one.

The patient was one of the more than one hundred women who die in California each year from conditions associated with pregnancy, delivery and the puerperium: Three mothers for every 10,000 live births.

The present death rate from obstetric causes represents a remarkable achievement of recent years, an improvement even greater than for mortality rates of infants around the time of birth:

DEATHS PER 10,000 LIVE BIRTHS

Year	*Obstetric Causes*	*Fetal (20 or more weeks gestation)*	*Neonatal (deaths under 28 days after birth)*
1920	70	306	362
1940	28	204	254
1960	3	129	172

However, despite this improvement, California's death rate from obstetric causes was higher than that in 21 other states for the period 1958-1960; New England, the West North Central states, Oregon, Washington and Hawaii had lower rates.[4]

In an effort to reduce deaths even more, since 1957 the Committee on Maternal and Child Care has been investigating all known deaths of women

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From: Bureau of Maternal and Child Health, California State Department of Public Health, Berkeley.

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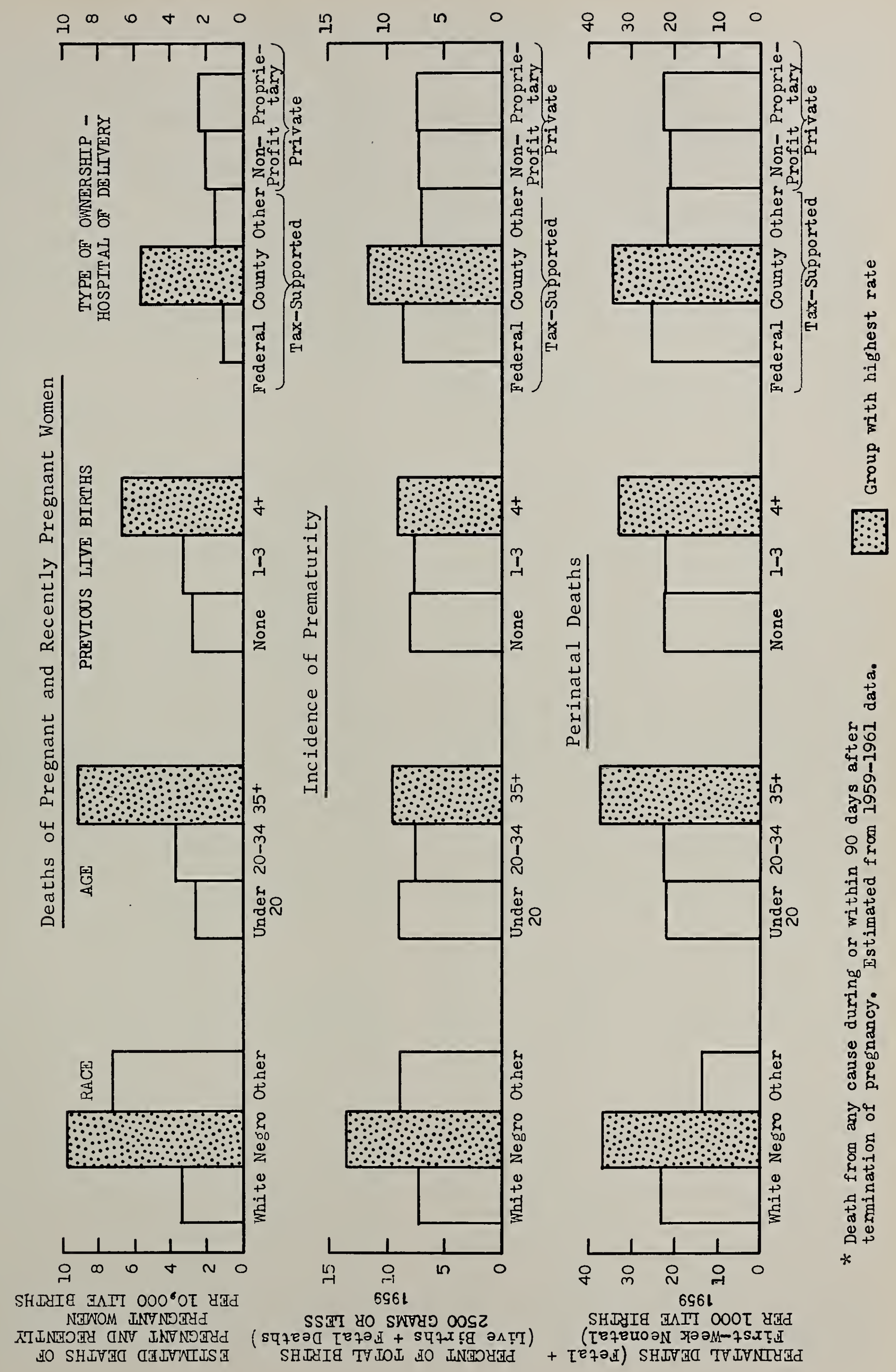
[*] The foregoing was adapted from the committee records; the death was one of those discussed in the present report.

Chart 1.—Estimated* Death Rate Among Pregnant and Recently Pregnant Women—Incidence of Prematurity and Perinatal Death Rate; Data on Race, Age, Previous Live Births and Hospital of Delivery.



* Death from any cause during or within 90 days after termination of pregnancy. Estimated from 1959-1961 data.

during or within 90 days after termination of pregnancy, including deaths from both obstetric and non-obstetric causes. Obstetricians in private practice, either board-certified or board-eligible, have been appointed as special consultants to the State Department of Public Health in order to review hospital, coroner and other records and, when possible, to interview attending physicians. Consultants' case summaries are discussed in five regional review committees composed of obstetricians, pathologists, anesthesiologists, general practitioners and public health physicians. Committees study causes of maternal death and avoidable factors for statistical and educational purposes, and to evaluate local practices and facilities. (For a more detailed description of the Committee's organization and activities, see "Maternal and Perinatal Deaths in California," California Medicine, 93:302-305, 1960.)

STUDY METHODS AND LIMITATIONS

Study cases were found primarily through (1) death certificates with an obstetric cause of death (International Classification of Diseases categories 640-689), (2) a cross-check by some local health departments of all deaths of women ages 15-44 against birth records to find non-obstetric deaths of recently pregnant women, (3) study of deaths from non-obstetric causes for which pregnancy was mentioned on the death certificate, and occasionally (4) personal knowledge of committee members. An unknown number of deaths of pregnant and recently pregnant women from non-obstetric causes were not identified; for example, in those areas without a cross-check of deaths and births, at least 25 per cent of deaths within the scope of the study were missed.[3] Case-finding methods in California are similar to those used in several other states investigating maternal deaths.[2]

The present report summarizes statistical information for 551 deaths for which certificates were filed during the five years August 1, 1957-July 31, 1962; investigations for an additional 228 reported deaths were not completed in time for inclusion. The two groups of women—those studied and those not yet studied—were similar with regard to race, age, previous live births, type of hospital ownership where they delivered, and proportions of deaths from abortion, other obstetric causes and non-obstetric causes.

Review was started of 31 deaths which were later excluded from the study. In 22 cases, the women either were not pregnant at the time of death or more than 90 days had elapsed since pregnancy. Eight cases were involved in litigation and were not reviewed. Cooperation with the study has been very good; only one case was excluded because the review committee was unable to obtain sufficient facts to evaluate the death.

Coroner and other records available to consultants varied in completeness. Since the identification of complications and avoidable factors is necessarily subjective with each observer, review committee members sometimes disagreed among themselves or with the original attendant about the existence or classification of factors.

The primary purpose of these studies is education, rather than basic research. No attempt has been made at this time to analyze the clinical data recorded in case summaries, although a large series of cases is being collected as a starting point for study of specific problems.

HIGH-RISK GROUPS IN THE POPULATION

The actual risk of death among pregnant and recently pregnant women is not known for the general population, since the incidence of pregnancy is unknown. (Official birth records are limited to live births and, in California, to fetal death of 20 weeks or more gestation.) However, in order to identify problem groups in the population, the estimated number of maternal deaths studied per 10,000 live births has been compared in Chart 1 with prematurity and perinatal death rates by race, age of mother, previous live births and ownership of hospital of delivery.

Since infant loss is a reflection of maternal morbidity, it was not surprising to find the same groups of women with the highest maternal death rates also produced infants with high prematurity and perinatal death rates: Negroes, mothers of age 35 or over, those with four or more previous live births, and county hospital clients.

CAUSES OF DEATH

From the investigator's summary, review committees assigned a single underlying cause of death among pregnant and recently pregnant women, defined as "the disease or injury which initiated the train of events leading directly to death." The choice of this statistical cause of death was necessarily arbitrary for some cases, and review committees assigned about one-third (186) of the deaths to a different International Classification category from the one selected by the physician who completed the original death certificate.

Table 1 shows causes of death selected by review committees. The 551 deaths studied were divided into three groups for discussion in this report: Abortion deaths, deaths from other obstetrical causes, and non-obstetric deaths.

TABLE 1.—*Causes of Maternal Death Assigned by Review Committee*

International Classification Category	Cause of Death	Number	Per Cent	Number With Pregnancy Responsible for Death*
	All Deaths Studied	551	100.0	450
640-689	Total obstetric deaths	356	64.6	356
650-652	Abortion	109	19.8	109
650, 652	Without sepsis	35	6.4	35
651	With sepsis	74	13.4	74
	Other obstetric cause	247	44.8	247
604-1, 681-2, 684	Sepsis (excluding abortion)	52	9.4	52
643-4, 670-2	Hemorrhage	39	7.1	39
642, 685-6	Toxemia	35	6.4	35
645	Ectopic pregnancy	28	5.1	28
646-649	Other complications of pregnancy	25	4.5	25
676-7	Trauma of delivery	25	4.5	25
673-5, 660, 678	Other complications of labor or delivery	29	5.3	29
680, 687-8, 683	Other complications of puerperium	14	2.5	14
Exclusive of 640-689	Total non-obstetric deaths	195	35.4	94
750-9	Congenital malformations	12	2.2	8
140-239	Neoplasms	19	3.4	2
	Diseases and conditions of:			
330-398	Nervous system and sense organs	15	2.7	3
400-468	Circulatory system	28	5.1	18
470-527	Respiratory system	28	5.1	20
530-587	Digestive system	11	2.0	5
240-289	Allergies, endocrine, metabolic and nutritional disease	10	1.8	3
E800-999	Accidents, poisonings and violence:			
E800-965	Accidents	33	6.0	15
E970-979	Suicides	6	1.1	1
E980-985	Homicides	4	0.7	....
Exclusive of above	All other causes	29†	5.3	19

*By definition, review committees considered deaths from obstetric causes to have been caused by pregnancy. However, obstetric deaths include two fatalities from liver disease arising during pregnancy in which committees could not determine whether deaths were actually related to pregnancy. For deaths from non-obstetric causes, a determination was made whether death was "hastened or made more likely" by pregnancy.

†Fewer than ten deaths in any category.

DEATHS FROM ABORTION

The medical term *abortion* designates the termination of a pregnancy at any time before the fetus has attained a state of viability. In general, review committees considered deaths from abortion as those associated with termination of pregnancy of less than 28 weeks (other than ectopic pregnancy); however, included with the 109 abortion deaths were three deaths from induced abortion of 28 weeks or more.

Three types of abortion are distinguished: unintentional or spontaneous; therapeutic, to save the life of a pregnant woman; and illegal or criminal. About one-fourth of all pregnancies terminate in spontaneous abortion before the 28th week.[1] The origin of the abortions leading to the 109 study deaths could not always be determined by study committees; however, for study purposes 23 (21.1 per cent) were considered spontaneous or of unknown origin, one (0.9 per cent) was performed for therapeutic reasons, and 85 (78.0 per cent) were termed "induced."

Almost one-third of all study deaths from obstetric causes resulted from abortion. This has become an increasingly important cause of maternal death in recent years: As death rates from other obstetric causes have declined, death rates from abortion have remained the same for whites and increased slightly for nonwhites. Using live births for comparison, nonwhites and mothers with several previous children have significantly higher death rates from abortion:

Population Group	*Estimated Number of Deaths From Abortion Per 10,000 Live Births (1959-1961 Data)*
Total	0.9
Race	
White	0.8
Nonwhite	1.8
Age	
Under 20	0.4
20-34	0.9
35 and over	1.5
Previous Live Births	
None	0.4
1-3	0.6
4 and over	1.9

TABLE 2.—*Weeks of Pregnancy and Time of Maternal Death—Deaths from Obstetric Causes (Except Abortion) and from Non-Obstetric Causes*[*]

Weeks of Pregnancy and Time of Death	Deaths from Obstetric Causes (Except Abortion)		Deaths from Non-Obstetric Causes	
	Number	Per Cent	Number	Per Cent
All Deaths Studied	247	100.0	195	100.0
Weeks of Pregnancy at Delivery or Death	224[†]	100.0[†]	172[†]	100.0[†]
Under 28 weeks	33	14.7	57	33.1
28-36 weeks	40	17.9	54	31.4
37 weeks and over	151	67.4	61	35.5
Time of Maternal Death	247	100.0	195	100.0
Mother delivered	209	84.6	125	64.1
Died during delivery	6	2.4	3	1.5
Died after delivery	196	79.4	111	56.9
Under one day	115	46.6	44	22.5
1-6 days	36	14.6	31	15.9
7 or more days	44	17.8	36	18.5
Days not reported	1	0.4	....	....
Delivered postmortem	6	2.4	11	5.6
Time not reported	1	0.4	....	....
Mother undelivered	38	15.4	70	36.0
Died before onset of labor	28	11.3	67	34.5
Died during labor	10	4.0	2	1.0
Time of death not reported	....	....	1	0.5

[*] Note: Excludes 109 abortion deaths.

[†] Excludes deaths without weeks of pregnancy reported.

However, comparisons of the incidence of induced abortion among groups of women is not possible since it is not known how many women attempt or seek abortion and survive.

Two-thirds of the 109 women were married; occupations most frequently reported were housewife (40.4 per cent), clerical or sales (27.5 per cent) and semi-skilled or unskilled labor (23.8 per cent).

In only 15 cases was there a record of any medical attention for pregnancy, even for confirmation of pregnancy. (Four women who mistakenly assumed they were pregnant and died from attempted abortion were excluded from the study.) In 78 of the cases, there was expulsion or mechanical removal of the products of conception; the other 31 women died without expulsion or removal of the products. Two-thirds of the 109 women died in a hospital. Of the 56 women for whom date of abortion was known, 38 died within one week and 18 a week or more later.

The patient admitted or was described as attempting the abortion herself in one-third of the deaths; for almost all others it was impossible to determine who, if anyone, was responsible. Methods of induction were widely varied: Intrauterine injections of soap or of peroxide; insertion of coat hangers, knitting needle or welding wire; insertion of air by catheter or by a plastic straw, using a football pump; douches of lysol, soap or potassium permanganate; ingestion of ergotrate, turpentine, magnesium sulfate, castor oil, or of a potassium compound.

DEATHS FROM OBSTETRIC CAUSES OTHER THAN ABORTION

Causes of Death

Excluding women who died as a result of abortion, 247 out of the 551 deaths studied were from other obstetric causes (Table 1). Sepsis, even when not associated with abortion, caused one in five of the 247 obstetric deaths. Although declining in recent years as a cause of maternal death in California, hemorrhage accounted for 15.8 per cent and toxemia for 14.2 per cent. Other frequently assigned underlying causes were ectopic pregnancy (11.3 per cent); other complications arising during pregnancy (10.1 per cent); trauma of delivery (10.1 per cent); and other complications of delivery (11.7 per cent); or the puerperium (5.7 per cent).

Prenatal Care

One in five (48 out of 247) women who died of other obstetric causes had no record of prenatal care. Although 21 of the women were delivered or died very early in pregnancy, 27 had reached the 20th week without care.

Records about earlier pregnancies and complications varied in completeness. However, of the 181 women with at least one earlier pregnancy for whom investigators obtained information, 104 (57.5 per cent) had a history of one or more previous complicated pregnancies.

Time of Maternal Deaths

Two-thirds of the women for whom information was recorded had carried their pregnancies to term

TABLE 3.—*Type and Outcome of Delivery—Deaths from Obstetric Causes (Except Abortion) and from Non-Obstetric Causes*

Type and Outcome of Delivery	Deaths from Obstetric Causes (Except Abortion)		Deaths from Non-Obstetric Causes	
	Number	Per Cent	Number	Per Cent
All Deliveries	214*	100.0*	130‡	100.0‡
Type of Delivery	214*	100.0*	130‡	100.0‡
Spontaneous	70	32.7	42	32.3
Cesarean section	65†	30.4†	48§	37.0§
Other procedure mentioned	76	35.5	28	21.5
Manipulation—breech	3	1.4	2	1.5
Manipulation—version	4	1.9	1	0.8
Forceps, mid or high	10	4.7	1	0.8
Forceps, low or unspecified	44	20.5	22	16.9
Surgical, excluding episiotomy	15	7.0	2	1.5
Type of delivery not reported	3	1.4	12	9.2
Outcome of Delivery	214*	100.0*	130‡	100.0‡
Fetal death	75	35.0	40	30.8
Under 20 weeks gestation	17	7.9	11	8.5
20 weeks or more	58	27.1	29	22.3
Live birth	139	65.0	90	69.2
2500 grams or less	17	7.9	36	27.7
2501 grams or more	122	57.0	54	41.5

*Includes five sets of twins; 214 infants born to 209 mothers who delivered.

†Includes six postmortem deliveries.

‡Includes three sets of twins and one of triplets; 130 infants born to 125 mothers who delivered.

§Includes nine postmortem deliveries.

(at least 37 weeks) at the time of delivery or death (Table 2). Almost all (209 or 84.6 per cent) delivered, including six women who were delivered after death. Of the 196 women who died after delivery, 58.7 per cent died within 24 hours, 18.4 per cent between one and six days later, 22.4 per cent more than one week postpartum, or (0.5 per cent) an unknown number of days after delivery.

Type and Outcome of Delivery

Three out of ten deliveries among women who died of obstetric causes were by cesarean section, and other procedures were reported for more than three deliveries out of ten (Table 3).

Two-thirds of all deliveries were live births; of the 139 liveborn infants, 12.2 per cent weighed 2500 grams or less. Six postmortem deliveries produced three living and three dead infants.

Comparison of Women Using County and Other Types of Hospitals

Of the 247 women studied who died from obstetric causes other than abortion, 51 were known to have been delivered or to have died in county hospitals and 175 either delivered or died in other types of hospitals.

When county hospital patients were compared with patients from other hospitals, it was found that:

- Among maternal deaths, county hospital clients represented a concentration of high-risk groups. Although they accounted for one-fifth of the deaths, they included one-half of all deaths of Negroes, one-third of the women with four or more previous live births, and two-fifths of the women with late or no prenatal care.
- Toxemia was the leading cause of death among county hospital patients; it ranked fourth after complications of delivery, sepsis and hemorrhage for patients of other types of hospitals.
- Mothers among the county hospital group had stillborn infants almost twice as often as the other group of patients (58.1 per cent compared with 30.4 per cent).

DEATHS FROM NON-OBSTETRIC CAUSES

Causes of Death

The most frequent causes of non-obstetric death among 195 pregnant and recently pregnant women were circulatory disease (14.4 per cent), respiratory disease (14.4 per cent), diseases of the nervous system (7.7 per cent), and accidental or violent death (22.0 per cent); (See Table 1). Among the 33 accidental deaths were 16 resulting from medical procedures: One death was from surgical operation, three from transfusion and 12 from anesthesia. There were 13 women for whom the procedure was performed because of pregnancy or delivery.

About one-half of the 195 deaths (94) were considered by review committees to have been "hastened or made more likely" by pregnancy or labor.

TABLE 4.—*Avoidable Factors Identified by Review Committees*

Avoidable Factor	Deaths with This Factor Identified	
	Number	Per Cent
All Deaths Studied	551	100.0
PATIENT FACTORS		
Inadequate prenatal care by patient—The patient did not seek care early in pregnancy or did not seek care at all	99	18.0
Induced abortion—Any attempt to induce abortion by mother or others. Does not include therapeutic abortion	95	17.2
Patient refusal to follow medical advice	33	6.0
Example: Patient refused to be hospitalized for complications of pregnancy.		
PROFESSIONAL OR HOSPITAL FACTORS		
Professional error in judgment—The physician attending the patient made the wrong decision in care, failed to act when care was needed or failed to follow through on care	247	44.8
Example: Failure to find the source of bleeding in a peritoneal and retroperitoneal hemorrhage occurring during labor, although a cesarean section and hysterectomy were performed without a bleeding point being found. Actual cause was rupture of splenic artery.		
Example: Patient discharged from hospital with symptoms of toxemia.		
Example: In his efforts to establish respiration in the infant, the physician overlooked the extent of lacerations in the mother, which resulted in her death from hemorrhage.		
Professional error in technique—The physician had the knowledge for necessary treatment but not the skill to administer it. That is, he made the correct decision but technically erred in providing it.	48	8.7
Example: Third degree lacerations during delivery of twins weighing less than three pounds; overloading vascular system with transfused blood.		
Inadequate prenatal care by physician—The physician conducted a perfunctory examination, did not request the mother to return early or frequently enough, or whose medical management of case was inadequate	40	7.2
Inadequate hospital facilities—Deficiencies in equipment or space, nursing staff or other personnel.	33	6.0
Example: Sufficient blood not available when required.		
NO FACTOR IDENTIFIED	128	23.2
UNDETERMINED IF FACTOR EXISTED	47	8.5

Time of Maternal Death

Compared with women who died of obstetric causes, in non-obstetric deaths, pregnancy was more often terminated by delivery or death before term and before the onset of labor (see Table 2). More than one-third of the mothers did not deliver, compared with 15.4 per cent among obstetric deaths. Of the 111 women who died after delivery, 39.7 per cent died within 24 hours, 27.9 per cent from one to six days later and 32.4 per cent more than one week postpartum.

Time and Outcome of Delivery

Of the 117 women with at least one earlier pregnancy for whom information was obtained about previous pregnancies, 64 (54.7 per cent) had a history of at least one complicated pregnancy. This was similar to the proportion found among obstetric deaths.

Of 118 deaths with information about type of delivery for this pregnancy, 48 or 40.7 per cent were delivered by cesarean section, including nine postmortem deliveries (see Table 3).

Two-thirds of the 130 deliveries among women who died of non-obstetric causes were live births. This was a similar proportion of live births to that among women who died of obstetric causes; however, these 90 liveborn infants in the non-obstetric group included more prematures than infants in the obstetric group (40.0 per cent compared with 12.2 per cent). Eleven postmortem deliveries resulted in eight live births and three fetal deaths. Proportions of deaths with one or more avoidable factors varied from 96.4 per cent of all deaths from abortion to 46.7 per cent of all non-obstetric deaths studied (Chart 2). One or more factors were found in 376 (68.1 per cent) of the deaths studied.

AVOIDABLE FACTORS IDENTIFIED BY REVIEW COMMITTEES

Table 4 shows definitions, examples and the frequency with which specific types of avoidable factors were considered by committees to have contributed to the maternal death. The factors found most often were professional errors in judgment (44.8 per cent of all deaths), inadequate prenatal care by patient (18.0 per cent) and induced abortion (17.2 per cent).

Identification and classification of factors was limited by incompleteness of records and the necessarily subjective interpretations of individual physicians. An example of a type of case for which various committees differed in deciding on avoidable factors was that of women who delayed seeking pre-

Chart 2.— Percent of Deaths With Avoidable Factors Identified—Cause of Death

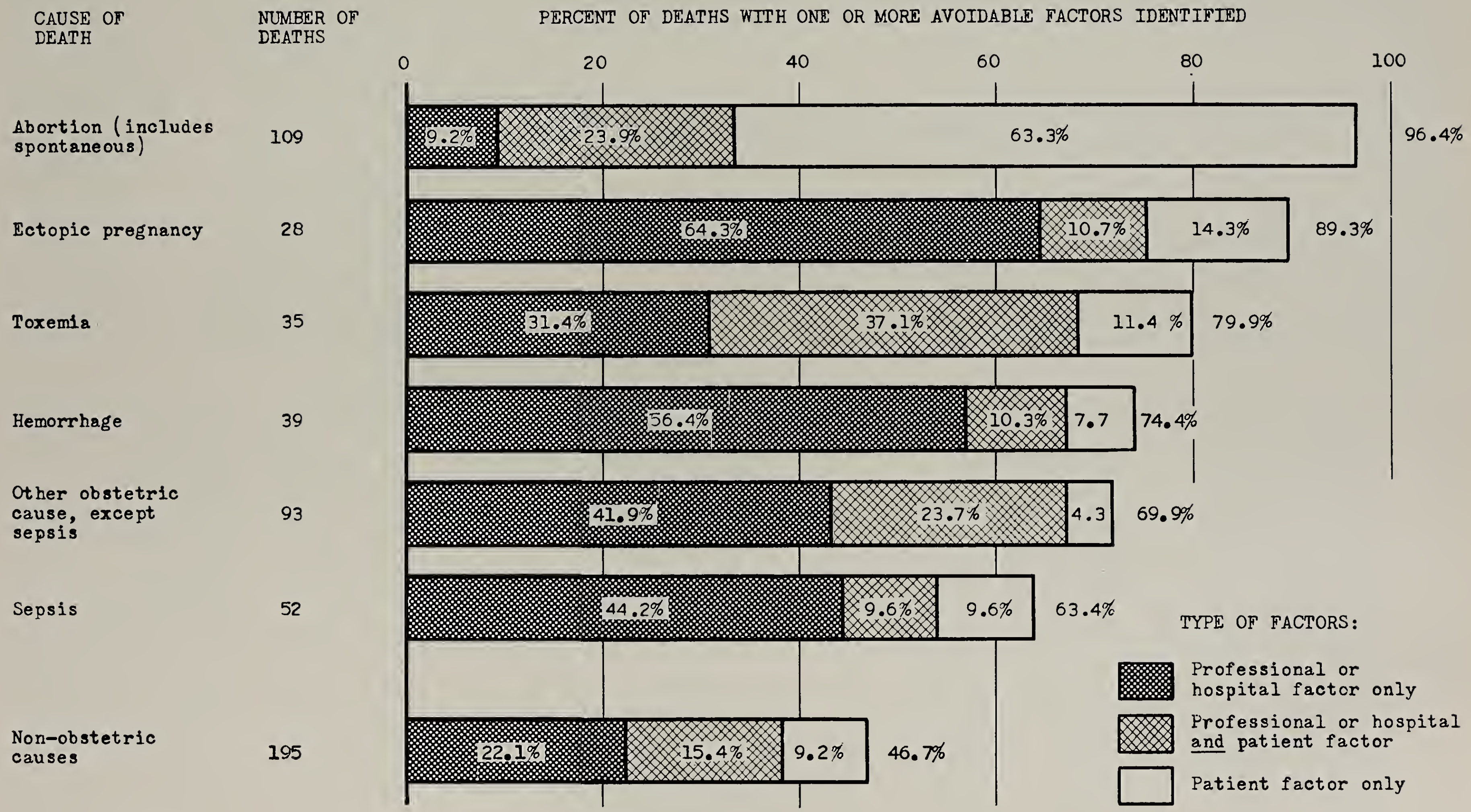


TABLE 5.—*Per Cent of Deaths With Avoidable Factors Identified—Selected Variables*

Variable	Number of Deaths Studied	Per Cent With Avoidable Factor Identified: Any Factor	Professional Or Hospital Factor Only	Patient Factor Only	Both Types of Factors Identified
All deaths studied	551	68.1	30.0	19.4	18.7
Race or ethnic group	551	68.1	30.0	19.4	18.7
White	408	66.2	28.2	18.9	19.1
Mexican-American*	87	75.9	34.5	16.1	25.3
Other	321	63.5	26.5	19.6	17.4
Negro	113	74.3	34.5	21.2	18.6
Oriental and other nonwhite	30	76.7	43.3	16.7	16.7
Age	551	68.1	30.0	19.4	18.7
Under 20	55	65.5	21.8	25.5	18.2
20-29	242	66.1	30.6	16.9	18.6
30-39	219	71.7	31.1	21.0	19.6
40 and over	35	68.5	37.1	14.3	17.1
Previous live births	492‡	70.7	32.7	17.9	20.1
None	114	69.3	31.6	17.5	20.2
1-3	241	67.2	33.2	14.5	19.5
4 and over	137	77.3	32.1	24.8	20.4
Source of prenatal care	338‡	63.1	40.0	5.9	17.2
Private physician	272	63.2	40.1	6.6	16.5
Public or private hospital clinic	66	62.1	39.4	3.0	19.7
Hospital of delivery	351§	67.9	38.5	10.0	19.4
County	88	78.4	31.8	19.3	27.3
Other tax-supported†	40	62.5	40.0	7.5	15.0
Private, nonprofit	163	60.7	37.4	8.6	14.7
Private, proprietary	60	75.0	50.0	1.7	23.3
Type of delivery	412§	69.9	34.2	14.8	20.9
Cesarean section	111	61.2	39.6	5.4	16.2
Not cesarean section	301	73.1	32.2	18.3	22.6
Cause of death	551	68.1	30.0	19.4	18.7
All deaths from obstetric causes	356	80.0	34.5	25.0	20.5
Abortion (includes spontaneous)	109	96.4	9.2	63.3	23.9
Other obstetric causes	247	72.9	45.8	8.1	19.0
Sepsis	52	63.4	44.2	9.6	9.6
Hemorrhage	39	74.4	56.4	7.7	10.3
Toxemia	35	79.9	31.4	11.4	37.1
Ectopic pregnancy	28	89.3	64.3	14.3	10.7
Other complications and causes	93	69.9	41.9	4.3	23.7
All deaths from non-obstetric causes	195	46.7	22.1	9.2	15.4

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*So stated on death certificate, or women whose birthplace or parents' birthplace was Mexico.

†Includes federal hospitals.

‡Excludes unknowns and, for "source of prenatal care," women with no prenatal care.

§Excludes women not delivered and, for "hospital of delivery," those not delivered in a hospital or for whom type of hospital was not reported.

natal care, but who died of causes arising after prenatal care began. Some committees considered such late prenatal care as a patient factor, while other committees decided that since late care did not contribute to death there was no avoidable patient factor.

Of every ten deaths reviewed committees found: Three with professional or hospital factors only; two with professional or hospital factors *and* patient factors; two with patient factors only; and three with no factor or deaths for which it could not be determined if a factor existed.

Table 5 shows types of avoidable factors identified for groups of women who were studied. In addition to women who died from abortion or who had neglected prenatal care, other groups of mothers also had relatively high proportions of patient, professional or hospital factors: Mexican-Americans; women with four or more previous live births; women who died of ectopic pregnancy; women who died of toxemia; women delivered in county hospitals; women delivered in private proprietary hospitals.

SUMMARY

During the period 1957-1962, the Committee on Maternal and Child Care of the California Medical Association and the State Department of Public Health studied 552 deaths of women during or within 90 days of termination of pregnancy. Seven

out of ten deaths were from obstetric causes, including 109 from abortion. Of the 195 deaths from non-obstetric causes, about one-half were considered by review committees to have been related to pregnancy.

About one-third of all obstetric deaths resulted from abortion; 78.0 per cent of the 109 abortion deaths followed induced abortion. Compared with live births occurring in the population, abortion deaths were found more frequently among non-whites and women with several children. Two-thirds of the women were married.

Of the 247 women who died of obstetric causes other than abortion, two-thirds carried their pregnancies to at least 37 weeks before delivery or death; almost all (84.6 per cent) delivered. Three out of ten deliveries were by cesarean section. Two-thirds of the deliveries were live births.

The most frequent causes of non-obstetric death were accidents (including 16 deaths resulting from medical procedures), circulatory and respiratory disease. Compared with women who died of obstetric causes, in non-obstetric deaths pregnancy was more often terminated by delivery or death before term.

Any avoidable factors which contributed to maternal deaths were identified. Professional errors in judgment (44.8 per cent of all deaths), inadequate prenatal care by the patient (18.0 per cent) and induced abortion (17.2 per cent) were the factors most often found.

Bureau of Maternal and Child Health, California State Department of Public Health, 2151 Berkeley Way, Berkeley, California 94704 (Lewis).

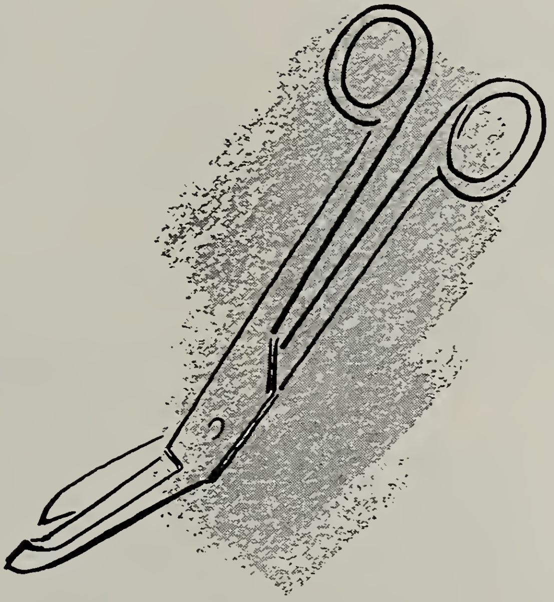
REFERENCES

1. Bierman, J., and French, F.: Probabilities of fetal mortality, Public Health Reports, Vol. 77, October, 1962.

2. Committee on Maternal and Child Care of the Council on Medical Services, American Medical Association, A Guide for Maternal Death Studies, 1957.

3. State of California, Department of Public Health, unpublished data.

4. U.S. Department of Health, Education, and Welfare, National Vital Statistics Division, Vital Statistics of the U.S., 1960, Vol. II, Section 1, Table 1-AA.



Acute Hydronephrosis Mimicking Renal Colic

DONALD C. MARTIN, *M.D.*, and JOSEPH J. KAUFMAN, *M.D.*, Los Angeles

• Hydronephrosis may be acute, recurrent and related to ingestion of fluid. Frequently a lower polar vessel is an etiological factor. The condition is amenable to corrective operation by a variety of surgical techniques, as in the six cases here reported.

HYDRONEPHROSIS SECONDARY to ureteropelvic junction obstruction may present as acute severe flank pain radiating to the inguinal and genital area. Tulpius reported the first recorded case of intermittent hydronephrosis in 1672.[3] The term *intermittent hydronephrosis* actually antedates excretory urography and was a diagnosis based upon intermittent and characteristic flank pain. Lower polar vessels were frequently implicated in the etiology of such intermittent hydronephrosis in adults by Mayo[5] and Braasch.[1] In 1950 Covington and Reeser reported a case presenting with right lower quadrant and right flank pain following the ingestion of a large amount of fluid.[2] The patient had previously had appendectomy for a similar pain. A routine intravenous urogram showed no abnormality of the upper urinary tract. A second urogram after the ingestion of 1,500 ml of water disclosed hydronephrosis. Maluf[4] observed that even in some normal patients the drinking of 2,000 ml of water before carrying out excretory urography would distend the entire renal pelvis and calyces.[4]

The following cases illustrate how hydronephrosis secondary to ureteropelvic junction obstruction can sometimes be heralded by acute pain mimicking that of ureteral calculus.

REPORTS OF CASES

CASE 1. A 40-year-old man was admitted to Cedars of Lebanon Hospital November 11, 1953, with left flank pain of 4 days' duration. The onset had been sudden and the pain so severe as to require opiates daily until the day of admission. There was no nausea, vomiting or chills. The patient had history of a peptic ulcer but had not had operation for it. There was pronounced left costovertebral angle tenderness. The urinary sediment showed 5 to 6 erythrocytes and the same number of leukocytes per high power field. An excretory urogram on admission revealed non-functioning of the left kidney with no evidence of a radiopaque calculus along the course of the ureter. A repeat excretory urogram after the acute symptoms had subsided again revealed no opaque calculus. Cystoscopy was done and catheterization of the left upper urinary tract permitted aspiration of 35 ml of urine. Pyelography demonstrated hydronephrosis and suggested that the obstruction was due to an anomalous vessel (Figure 1). A translumbar aortogram demonstrated a branch of the main renal artery which separated widely from its parent vessel and supplied the lower pole of the kidney (Figure 2).

At operation the vessel was found to lie anterior to the ureter and renal pelvis but the upper ureter fell over the vessel and resulted in obstruction at this level. The surgical procedure consisted in transposing the ureter lateral to the vessel together with intubation of the ureter and nephrostomy drainage. To maintain this more desirable relationship between ureter and artery the kidney was fastened in place. The ureteral splint was removed six weeks later, but clamping of the nephrostomy tube was followed by fever. The ureter was dilated to the size of a No. 12 (French) catheter and the nephrostomy tube then was removed. The fistulous tract dried in four or five days and an excretory urogram 18

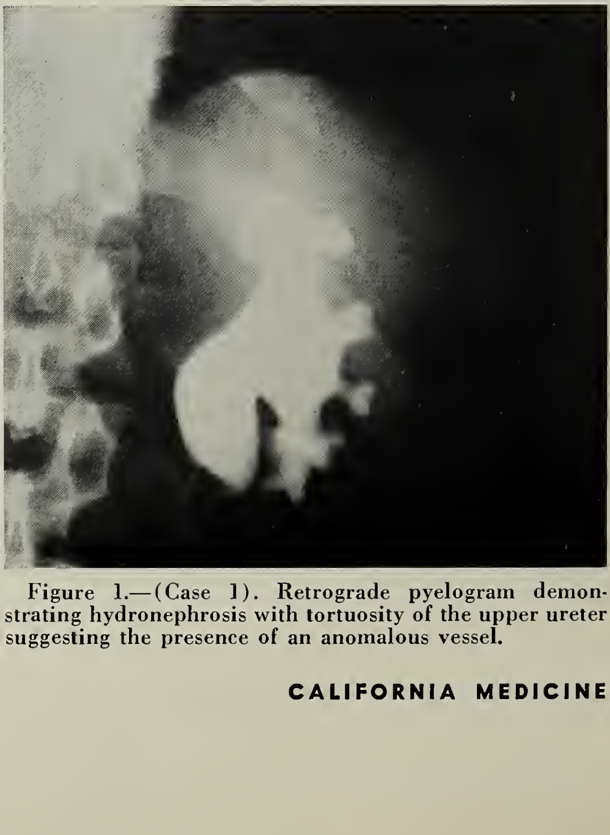


Figure 1.—(Case 1). Retrograde pyelogram demonstrating hydronephrosis with tortuosity of the upper ureter suggesting the presence of an anomalous vessel.

From the University of California Medical Center, Los Angeles, and the Wadsworth Veterans Administration Hospital, Los Angeles.

Submitted July 26, 1963.

months after operation showed an excellent result (Figure 3). The patient remained free of pain.

Case 2. A 41-year-old man was admitted to the Veterans Administration Hospital, Wadsworth, on January 21, 1956, following sudden onset of right lower quadrant pain radiating to the right flank. The pain waxed and waned then became steady. It was associated with nausea and vomiting but not with fever or chills. There were no associated urinary tract symptoms. The patient recalled a similar attack six months previously. When examined he appeared acutely ill with acute tenderness in the right flank and the right lower quadrant of the abdomen, but the abdomen was soft. The urine contained 10 to 15 leukocytes per high power field. Renal colic was suspected.

An excretory urogram made on admission revealed no visible calculus. After one hour only a nephrogram was apparent on the right. A retrograde pyelogram showed right hydronephrosis. One hundred milliliters of urine was aspirated from the renal pelvis.

At operation a small vessel was found crossing the ureteropelvic junction on the anterior aspect. The vessel was small and therefore it was ligated and divided. Because the ureteropelvic junction remained obstructed it was opened longitudinally and a No. 8 (French) polyethylene catheter was used as a ureteral splint. Together with a nephrostomy tube, it was brought out through a lower calyx. A postoperative pyelogram showed good drainage at four weeks. (See Figure 4.)

Case 3. The patient, a 23-year-old man, had severe pain in the right flank that had begun with a stabbing sensation centered in the right costovertebral angle and radiating to the groin. He said that for three months he had had dull aching in the right flank.

The oral temperature was 100° F. Tenderness at the costovertebral angle was noted. The urine contained 20 to 25 leukocytes per high power field. Excretory urography showed non-functioning of the right kidney, and on cystoscopy with retrograde pyelography a large hydronephrosis was observed.

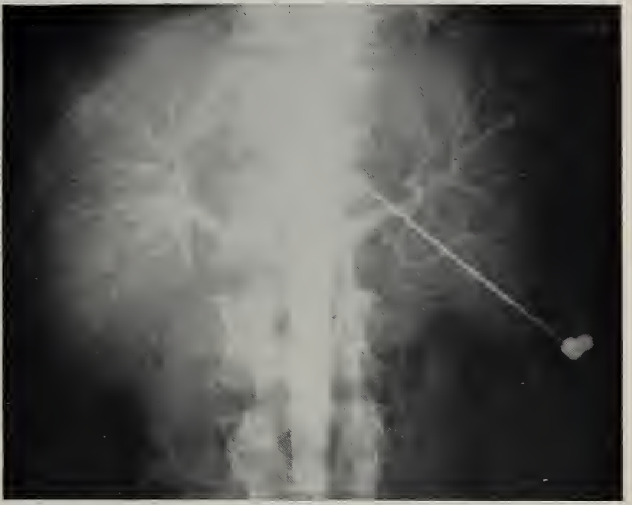


Figure 2.—(Case 1). Translumbar aortogram outlining the renal arterial supply. The artery to the lower pole of the left kidney is widely separated from vessels supplying the remainder of the kidney (arrows) allowing the pelvis and ureter to prolapse over it.

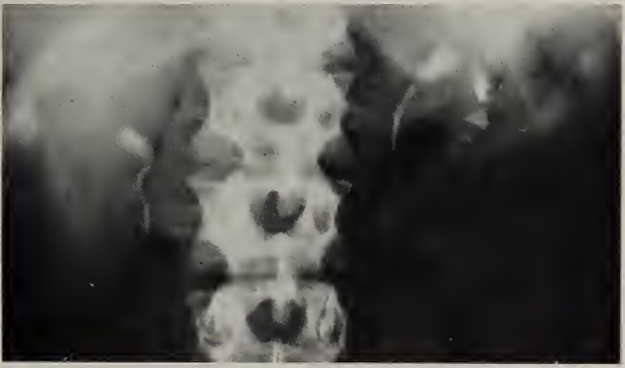


Figure 3.—(Case 1). Excretory urogram 18 months after operation, demonstrating an excellent result.

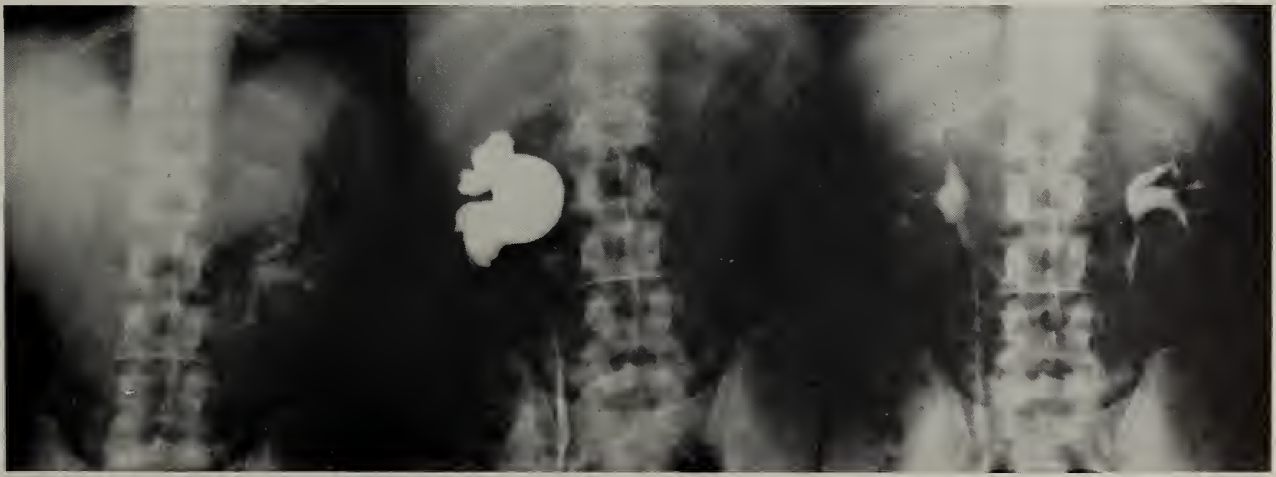


Figure 4.—(Case 2). *Left*, preoperative excretory urogram demonstrating no opaque medium on the right; *center*, retrograde pyelogram demonstrating the hydronephrosis on the right; and, *right*, postoperative excretory urogram demonstrating a good result.

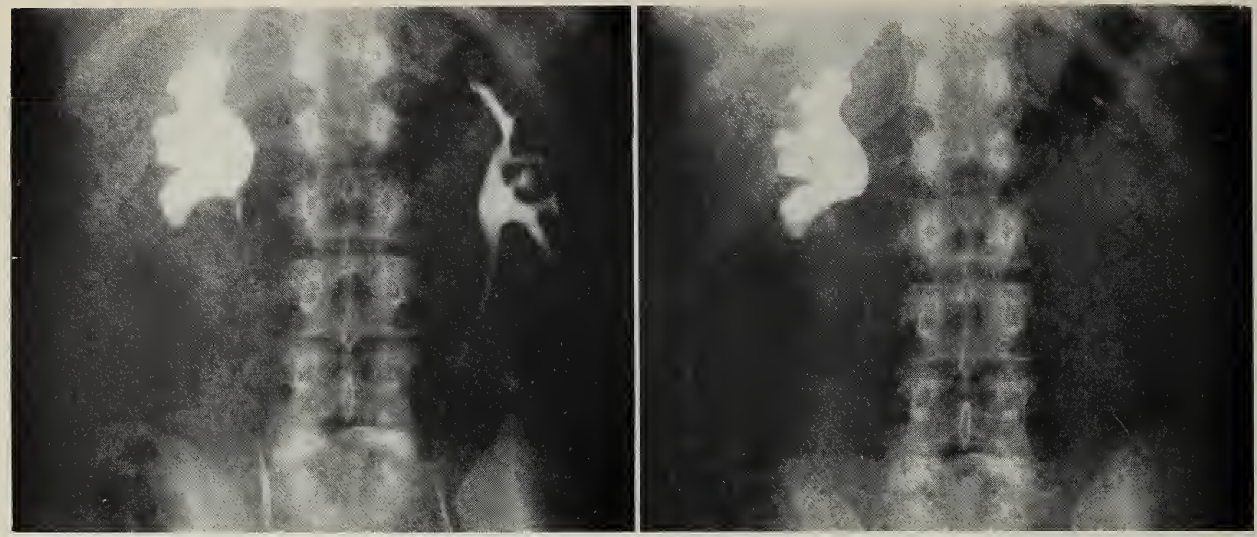


Figure 5.—(Case 5). *Left,* retrograde pyelogram showing hydronephrosis with tortuosity of the upper ureter. *Right,* delayed drainage from the hydronephrotic right kidney.

At operation a herniated renal pelvis was found between two renal vessels. Revision of the ureteropelvic junction was performed by splinting the upper ureter with an No. 12 rubber catheter. Nephrostomy and nephropexy were also carried out. A follow-up excretory urogram showed a good result.

Case 4. A 49-year-old woman was admitted to the University of California Los Angeles Medical Center with severe right flank and groin pain of one day's duration. She said that all her life she had had urinary frequency, urgency and intermittent dysuria, and she had recurrent fever and chills. Also she complained of chronic backache which was felt mainly on the right. A severe episode of right flank pain some 15 years before had been attributed to sulfa crystals." A second attack of pain occurred about three years before the present illness and she recalled frequent recurrences since that time. The pain usually persisted 12 to 24 hours and was relieved only by hypodermic injections of analgesic drugs. A urological study that had been done at another hospital some two years ago led to a diagnosis of a non-opaque stone and the patient was scheduled for operation until a second set of radiographs failed to confirm the findings of the first films.

The oral temperature was 37° C, the pulse rate 68 and the blood pressure 130/75 mm of mercury. Pronounced right costovertebral angle tenderness was elicited. The urinary sediment contained 1 to 2 erythrocytes and 3 to 4 leukocytes per high power field. An excretory urogram on admission showed a poorly functioning right kidney with hydronephrosis, but no opaque calculus was evident. The impression was that the patient had renal colic.

A retrograde pyelogram showed advanced hydronephrosis on the right. At operation an aberrant artery was found passing behind the upper ureter but apparently not obstructing the flow of urine. A corresponding vein and surrounding fibrous tissue compressed and obstructed the upper ureter. The vessels were divided and a spiral flap (Culp-Scardino) pyeloureteroplasty was performed. A No. 8 rubber catheter was inserted into the ureter and nephrostomy was carried out. The splinting catheter was removed two weeks postoperatively and the nephrostomy tube was removed three days later. The patient progressed satisfactorily thereafter.

Case 5. A 20-year-old man was admitted to the University of California Los Angeles Medical Center with a history of recurrent attacks over a five-year period, of dull right flank pain which usually subsided spontaneously. An excretory urogram during one such attack showed non-functioning of the right kidney. The past history was negative except for a diagnosis of functional hypoglycemia. The patient reported four sisters to have renal disease of a nature unknown to him.

The pulse rate was 68 and blood pressure 130/80 mm of mercury. Moderate right costovertebral angle tenderness was noted. The urinary sediment contained only 0 to 1 leukocytes per high power field. Retrograde pyelography disclosed hydronephrosis on the right secondary to ureteropelvic obstruction (Figure 5).

At operation a vein draining the lower pole was found to compress the upper ureter, which allowed the renal pelvis and upper ureter to prolapse over it. The vein was ligated and divided and a spiral flap (Culp-Scardino) pyeloureteroplasty was performed. A No. 8 (French) rubber catheter was employed as a splint and a nephrostomy tube was used. The postoperative follow-up at the time of the report was too brief for assessment.

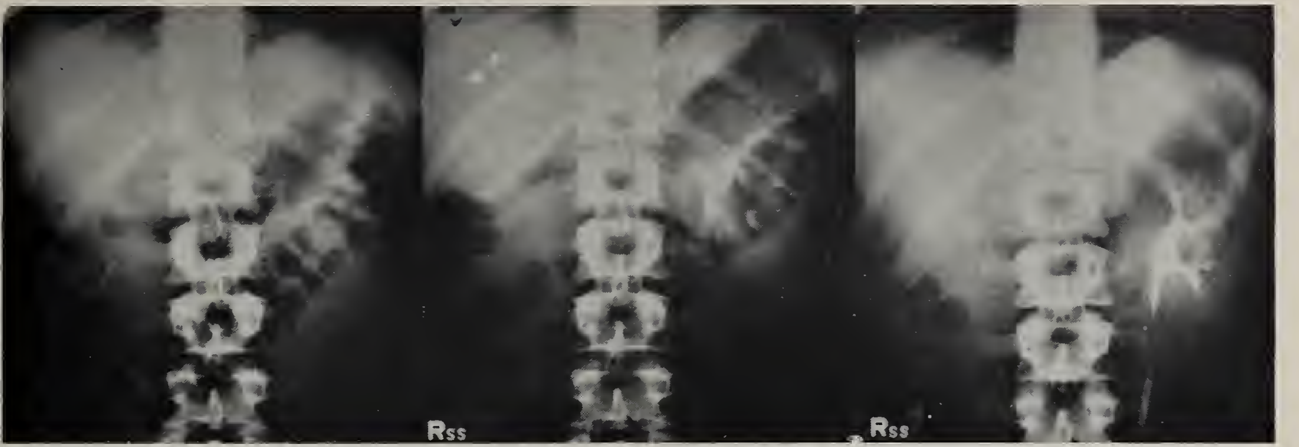


Figure 6.—(Case 6). Initial excretory urogram demonstrates no opaque media on the right, the side of extreme pain. Acute hydronephrosis will frequently present as a nonfunctioning kidney on excretory urogram during an acute attack of pain.

CASE 6. The patient, a 25-year-old-man was admitted to the University of California Los Angeles Medical Center with a two and a half year history of recurrent right flank pain brought on by excessive fluid ingestion. Four days before admittance, following unusual fluid intake, including alcohol, the patient had the most severe attack he had ever had of right flank pain. He consulted a urologist who made an excretory urogram which disclosed non-functioning of the right kidney (Figure 6). A retrograde pyelogram showed hydronephrosis on the right, secondary to ureteropelvic obstruction (Figure 7).

The patient's parents recalled that at age 10 he had had an illness consisting of pain in the back with pus in the urine. No x-ray films were taken at that time. The patient remembered that appendectomy had been done for identical pain several years later.

After admission because of a high fever, the patient was taken to the operating room where a No. 7 (French) ureteral catheter was passed into the kidney and a hydronephrotic drip obtained. This catheter drained well for an hour but then the flow almost stopped. Irrigation of the ureteral catheter brought forth thick purulent material. When the patient's fever recurred, operation was advised. A large artery and vein to the lower pole of the right kidney were found crossing the upper ureter and obstructing it by allowing the renal pelvis to herniate over the vessels. The vein was divided but trial clamping of the artery indicated that it supplied a good portion of the lower pole of the kidney. Although the kidney contained purulent material in the renal pelvis a good amount of renal parenchyma remained intact and in view of this and the patient's youth an attempt was made to salvage the kidney. The artery was mobilized, transposed superiorly and a dismembered pyeloureteroplasty (Anderson-Hynes) was performed. A No. 8 rubber catheter was employed as a splint and a nephrostomy tube was used. Follow-up at the time of this report was too short to appraise the result.

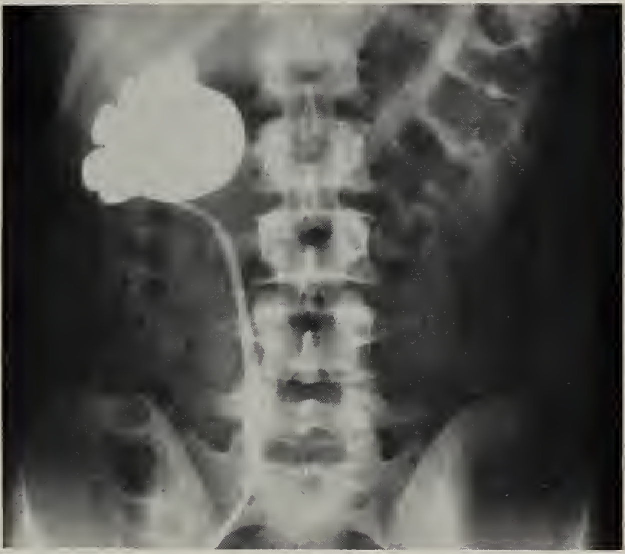


Figure 7.—(Case 6). Retrograde pyelogram demonstrating severe hydronephrosis which was not apparent on excretory urography due to lack of concentration of the opaque medium.

DISCUSSION

These case reports serve to illustrate how ureteropelvic obstruction may present as an acute painful episode suggesting colic of ureteral calculus. The recurrent nature of such attacks is indicated in Cases 2, 4, 5 and 6, and the exacerbations and remissions suggest the sometimes intermittent nature of hydronephrosis.

Intermittent hydronephrosis secondary to large ingestion of fluids, first reported by Covington and Reeser, is illustrated in Cases 3 and 6 of those here reported. The similarity between Case 6 and the case reported by Covington and Reeser is striking (including the erroneous diagnosis of appendicitis).

An aberrant lower pole blood vessel producing hydronephrosis was found in each of the six cases reported here. In five of the six patients the vessels were anterior to the ureter and pelvis but the upper ureter and renal pelvis were suspended by the vessel. (In one of the six cases the offending vessel was located posterior to the renal pelvis.) In this situation, over-filling of the renal pelvis exaggerates the obstruction. Maluf[4] demonstrated that over-filling of the renal pelvis occurs in normal persons following the drinking of 2,000 ml of water.

In the first three cases, follow-up was long enough to indicate that the corrective results of surgical operation were enduring. For prolapse of the pelvis over a vessel, mobilization and transposition of the lower vessel to a more superior position has been suggested (Maluf), the position of the vessel being maintained by suturing it to the upper aspect of the renal pelvis and to the upper renal artery. Stewart[8] conserved the renal artery and prevented prolapse of the pelvis in these cases by folding the kidney upon itself. In this operation the renal pelvis and ureter come to lie inferior to the vessels supplying blood.

Because renal veins have intercommunications within the kidney, they can be safely sacrificed. Renal arteries, on the other hand, are end vessels with no internal anastomosis and for this reason cannot be ligated without causing ischemia of kidney substance.[7] If the segment of kidney which is infarcted is small, no serious effects are experienced, but if the area of ischemia is greater than one-sixth of the kidney the possibility of hypertension is considerable and it is probably preferable to resect the area. If there is any question as to the exact area of the kidney supplied by the vessel, indigo carmine can be injected into the segmental artery before ligation.[6]

Division of Urology, U.C.L.A. Medical Center, Los Angeles, California 90024 (Martin).

REFERENCES

1. Braasch, W. F.: Clinical considerations of intermittent hydronephrosis caused by anomalous renal vessels, J.A.M.A., 52:1384-1386, 1909.

2. Covington, T., and Reeser, W.: Hydronephrosis associated with overhydration, J. Urol., 63:438-440, 1950.

3. Jones, D. F.: Intermittent hydronephrosis with a report of four cases, Boston Med. Surg. J., 160:529-539, 1909.

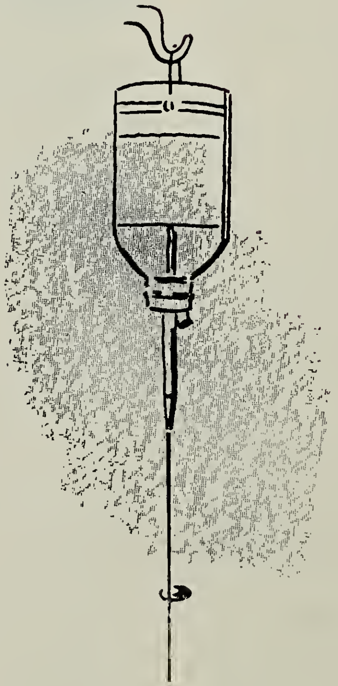
4. Maluf, N. S. R.: A method for relief of upper ureteral obstruction within bifurcation of renal artery, J. Urol., 75: 229-241, 1956.

5. Mayo, W. J., Braasch, W. F., and McCarty, W. C.: Relation of anomalous renal blood vessels to hydronephrosis, J.A.M.A., 52:1383-1388, 1909.

6. Poutasse, E. F.: Partial nephrectomy: New techniques, approach, operative indications and review of 51 cases, J. of Urol., 88:153-159, 1962.

7. Smith, G. T., Calne, R. Y., Murray, J. E., and Dammin, G. J.: Anatomic observations on the renal vessels in man with reference to kidney transplantation, Surg. Gynec. & Obst., 115:682-688, 1962.

8. Stewart, H. H.: A new operation for the treatment of hydronephrosis in association with a lower polar (or aberrant) artery, Brit. J. Surg., 35:51-57, 1947.



Schistosome Dermatitis in Sacramento, California

GEORGE W. HUNTER, III, *Ph.D.*, Gainesville, Florida

• Pruritus developed in two persons at different times, after contact with water in a duck pond at a motel in Sacramento. At those times (in August 1961 and June 1962) large numbers of snails infected with the dermatitis-producing cercariae *T. physellae* were present in the pond. Experimental lesions were produced in volunteers and by exposure to infected water while collecting snails along the shore of the pond.

SCHISTOSOME DERMATITIS, or "swimmer's itch" as it is often called, occurs in many areas of the world.[1] It is widespread throughout the United States and Canada, where it has been known since 1928 when Cort[2,3] first demonstrated that certain species of bird and mammal schistosomes could penetrate the human skin and produce a pronounced dermatitis in hypersensitive persons. In driving to the West Coast in August 1961, the author made an overnight stop at a new motel within the city limits of Sacramento, California. The motel was built in the shape of an "L" around a small artificial pond about two-thirds the size of a football field. A number of ducks were present on the pond.

At the motel a boy, 11 years of age, was splashing and wading in the water at the edge of the duck pond in the early afternoon of August 10, 1961. After about 15 minutes he ran out, crying, and an intense pruritus was noted, concentrated on the legs under loose-fitting trunks, and on the hands and forearms. The dermatitis which developed with erythema and macule formation was so severe that it was necessary for a physician to give the boy an antihistamine agent (Temaril®). Thereupon the macules, which had appeared within the first 15 to 20 minutes, began to subside. The boy was examined periodically until the following morning and there were no further exacerbations. There was no history of previous sensitivity. The siblings were not exposed.

EPIDEMIOLOGICAL FINDINGS

The shore of the pond was examined and snails were collected from the area in which the boy had been playing. Three genera of snails were represented, *Physa, Helisoma and Stagnicola.* A total of 40 to 50 snails was collected, isolated in Kleenex-covered tumblers secured with rubber bands, and left overnight. Fork-tailed cercariae were visible the next morning in the tumbler containing the *Physa,* and other cercariae in the glass containing *Stagnicola* and *Helisoma.*

For investigational purpose, the author put the flexor surface of his forearm in contact with the water in the tumbler containing the fork-tailed cercariae and held it there for 15 minutes, except for raising it several times during this period to let it dry partially. Three macules appeared within 30 minutes in the exposed area, subsequently developing into papules accompanied by pruritus. The snails were saved for further study (Table 1).

At this time the author recommended possible control measures to the manager of the motel and suggested that signs be erected around the pond forbidding wading and playing in the water. Subsequently this was done.[7] The pond was formed originally by damming a creek which drained what had been a marsh. The pond was lined with loose rocks which extended out from the shore for a yard or more, thus providing an excellent ecological niche for some species of snails. The dam was so constructed that the pond could be drained. This was usually done in the spring and the aquatic plants were destroyed with a spray. Water of condensation from the air-conditioning system also drained into the pond.

At the time of these observations there were two pintail ducks, what appeared to be four "wild" mallards and 10 or 12 hybrids or domestic whites on the pond. The wild ducks were said to have arrived shortly after the pond was completed and to have remained since. The domestic white ducks were added. The wild and domestic ducks hybridized freely from the beginning (1957).

Several hundred snails were collected from the pond on August 11 and transported, together with those collected the preceding day, to the Sixth Army Area Laboratory at Ft. Baker, California, where they were isolated. The reactions of the cercariae to light and darkness, their shedding and swimming patterns, as well as morphologic features were carefully studied. Data on the prevalence of schisto-

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From the Department of Tropical Medicine and Medical Parasitology, Louisiana State University School of Medicine and, Resident Coordinator, International Center for Medical Research and Training, Costa Rica. (On leave from the University of Florida.)

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Submitted May 20, 1963.

TABLE 1.—*Prevalence of Schistosome Cercariae in Snails from Motel Pond, Sacramento, California*

Snail	August 1961			June 1962*		
	Number		Per Cent Positive	Number		Per Cent Positive
	Examined	Positive		Examined	Positive	
Physa ampullacea (Gould)	119	10	8.4	200	25	12.5
Stagnicola palustris nuttaliana (Lea)	15	1	6.6	36	0	0
Helisoma subcrenatum (Carpenter)	38	0	0	33	0	0

*These data were supplied by Mr. Gail Grodhaus, Bureau of Vector Control, Epidemiology Section, California Department of Health, Sacramento.

some cercariae in the snails from the motel pond are given in Table 1.

The author, who over the years has developed a hypersensitivity to dermatitis-producing fork-tailed brevifurcate cercariae, collected the snails from the water at the edge of the pond. The snails were retrieved almost entirely by the left hand, which was consequently submerged in the relatively shallow water much of the time. As a result of this exposure, seven lesions, presumably due to schistosome cercariae, developed on the fingers and back of the left hand. Macules first appeared within 30 minutes, followed by papules within 12 hours. The pruritus was so intense that it was necessary to take an antihistamine (Chlor-trimeton®) for several days. The lesions persisted until August 25, 1961. Added to these were the lesions which developed as a result of the experimental exposure to the cercariae during the night of August 10 and those to which the author subsequently exposed himself on the morning of August 12 and 13 at Ft. Baker.

The snails were isolated individually; the two collections of snails were kept separated to facilitate a study of those producing dermatitis experimentally at the motel. All of the ten infected *Physa ampullacea* shed what appeared to be identical brevifurcate fork-tailed cercariae. On the basis of the behavioral patterns, time of emergence, responses to light and darkness, flame cell pattern, host, and the morphologic features of the living specimens, the cercariae were identified as those of *Trichobilharzia physellae* (Talbot, 1936). Unfortunately it was not possible to secure any ducks from the pond at the motel for examination because of the lack of cooperation on the part of the management.

Typical schistosome dermatitis macules and papules were produced in two volunteers from a pool of schistosome-positive *P. ampullacea* snails.

A single *Stagnicola palustris* shed schistosome cercariae that were decidedly different in size, swimming pattern and flame cell pattern. Unfortunately the limitations of time did not permit a definitive identification of this species, although it did resemble those found in the same snail host in Colorado (Hunter, unpublished data). Infection experiments were not carried out.

DISCUSSION OF RESULTS

The presence of cercariae of *T. physellae* implied the presence of definitive hosts nearby. The stream which fed the pond ran through a highly populated area and also through a golf course; however, no aquatic birds were seen there. As noted earlier there were four mallard ducks present; these are known to be normal definitive hosts for *T. physellae*, and it is probable that the other domestic ducks present were also infected. It was not possible to secure birds for postmortem studies.

In view of (1) the heavy infection of the snails with schistosome cercariae in the pond at the motel (8 to 12 per cent), (2) the clear-cut evidence of the presence of dermatitis-producing cercariae in the marginal waters of this pond on August 10 and 11, 1961, and (3) the high incidence of infected snails in the same area a year later (June 13, 1962), it seems highly probable that this pond is a potential source of schistosome dermatitis infections at least through the summer months and quite probably throughout most of the year. It seems strange that other cases have not been recognized, but perhaps this may be explained by the fact that (1) most people are unfamiliar with the infection and so would not recognize it, (2) most children are probably not yet hypersensitive to these parasites and so reactions would be minimal, (3) in cases where the reaction is delayed there would be little likelihood of a tourist's associating a child's playing in the pond with a rash that developed 12 hours or more later. Nevertheless the occurrence of two severe cases after exposure in such a pond, plus the occurrence of somewhat similar cases reported from other areas of California,[8,10] Washington[4,11] and Colorado,[5,6] suggests that this problem should not be regarded lightly and that physicians and public health officials should be on the alert, even when duck ponds occur within the limits of a good-sized community.

Department of Microbiology, J. Hillis Miller Health Center, University of Florida, Gainesville, Florida 32603.

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REFERENCES

1. Chu, G. W. T. C.: Pacific area distribution of fresh-water and marine cercarial dermatitis, Pac. Sci. 12:299-312, 1958.

2. Cort, W. W.: Schistosome dermatitis in the United States (Michigan), J. Am. Med. Assoc. 90:1027-1029, 1928a.

3. Cort, W. W.: Further observations on schistosome dermatitis in the United States (Michigan), Sci. 68:388, 1928b.

4. Hunter, G. W., III, Schillam, D. S., Trott, O. T. and Howell, E. V., Jr.: Schistosome dermatitis in Seattle, Washington, J. Parasit. 35:250-254, 1949.

5. Hunter, G. W., III: Studies on Schistosomiasis. XIII. Schistosome dermatitis in Colorado. J. Parasit., 46:231-234, 1960.

6. Hunter, G. W., III: (Ms.) More schistosome dermatitis.

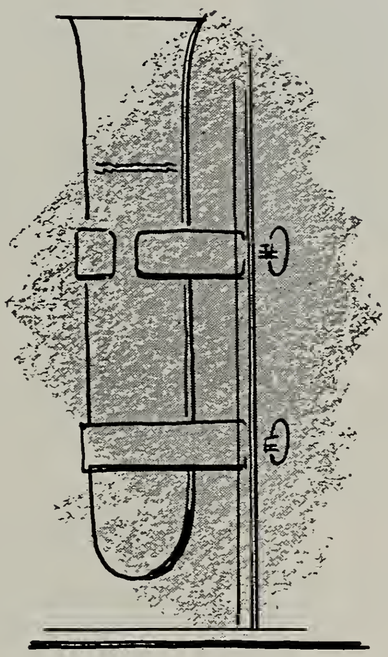
7. Proctor, Rebecca L.: Personal communication, 1962.

8. Mortenson, E. W. and Mulhern, T. D.: The occurrence of "swimmer's itch" in a Sierra Nevada mountain lake, Calif. Health 9:36-37, 1951.

9. Simonds, W. L., Martin, W. E. and Wagner, E. D.: Fresh-water cercariae dermatitis from Southern California, Am. J. Trop. Med. 31:611-613, 1951.

10. Keh, B., and Grodhaus, G.: Swimmers' itch at Duck Club in Yuba County, California, Calif. Vector News, 4:10, 1957.

11. Macy, R. W.: Studies in schistosome dermatitis in the Pacific Northwest, Northwest Med.. 51:947-950, 1952.



Dermabrasion for Traumatic Facial Scarring

JEROME ORMOND KIRSCHBAUM, *M.D.*, San Francisco

• Deep dermal planing is effective for removal of traumatic facial scarring such as those from jagged cuts in automobile collisions and the like. Severe complications are few. The technique is of utmost importance.

BENEFITS FROM DERMABRASION have been in question since its introduction for treating acne pits. Enthusiasm for the procedure has gradually waned and recent articles[1,2,7] have dealt with possible deleterious side-effects and poor results. However, the value of dermabrasion for the amelioration of specific acne scars and precancerous skin has been established.[3,4,6,9] Aging skin and wrinkles also respond to this dermatologic surgical procedure.[5] Another use for dermabrasion that has been overlooked is to remove facial wound scars such as may result from automobile accidents.

REPORT OF A CASE

A 56-year-old man, riding in the front seat of an automobile which was struck "head on" by another vehicle, was thrown through the glass windshield. At a hospital near the scene the following diagnosis was made: Severe facial and nasal lacerations, fracture of nasal bones and contusion of chest wall.

Following debridement of the facial lacerations, primary closure with interrupted mattress sutures was carried out. The nasal laceration, which extended across the nasal bridge from the left to the right inner canthus, was also closed with the same kind of sutures.

Ten days postoperatively the repair of the facial lacerations appeared successful. However, the nasal laceration showed invagination of the skin edges and widening of the wound. Therefore, two weeks following the initial operation, the patient was given general endotracheal anesthesia and a second-stage repair of the extensive nasal bridge laceration was performed. The devitalized tissues were debrided and the edges approximated and closed with interrupted mattress sutures.

Two months after the accident, the patient was referred for treatment of the early hypertrophic scars of the forehead and severe scarring and filling defect of the nose (Figure 1). The facial scars were raised, slightly tender and measured 5.0 x 1.0 mm on the right forehead, 3.5 x 1.0 mm on the left forehead and 5 mm over the left eyebrow. The nose was considerably deformed. The superior edge was lipped and hung down over a filling defect. The entire area was fully re-epithelialized but was still moderately tender to palpation.

Seventy-six days after the first operation, utilizing a combination of ethyl chloride and dichlorotetrafluoroethane as refrigerant anesthetic, deep dermabrasion of the entire forehead and nose was carried out. Steel wire brushes were employed except on the skin of the ala nasi, where a diamond fraise was used. The patient remained awake throughout the 30-minute procedure and was discharged from the hospital the following morning.

Postoperative course was uneventful and after seven days all the crusts had come off. After two weeks the cosmetic result was excellent (Figure 2), the facial scars flat and smooth and the deformity of the nasal skin barely noticeable. Both areas were non-tender.

COMMENT

McAndrew reported on the removal of linear scars with dermabrasion.[8] His method combined tatooing, dermabrasion, excision and suturing. Recent experience with treating both linear and jagged scars of the face indicates that dermabrasion alone is all that is necessary.

A waiting period of two to three months following injury is advisable. During this time the scars should be carefully observed. Hypertrophic scars may be treated with intralesional steroids or superficial radiation.

The technique of dermabrasion is important. A wire brush should be used and planing should be deep, reaching to the level of the mid-dermis. It must be stressed that this technique is limited to facial scarring, for only the face is adequately supplied with the cutaneous appendigeal structures that supply the keratinocytes needed for re-epithelialization after deep dermabrasion. Experience with the technique and a complete knowledge of the variations in microscopic anatomy in different areas of the skin are prerequisites to undertaking scar removal.

From the Division of Dermatology, Department of Medicine, University of California School of Medicine, San Francisco.

Submitted December 4, 1963.

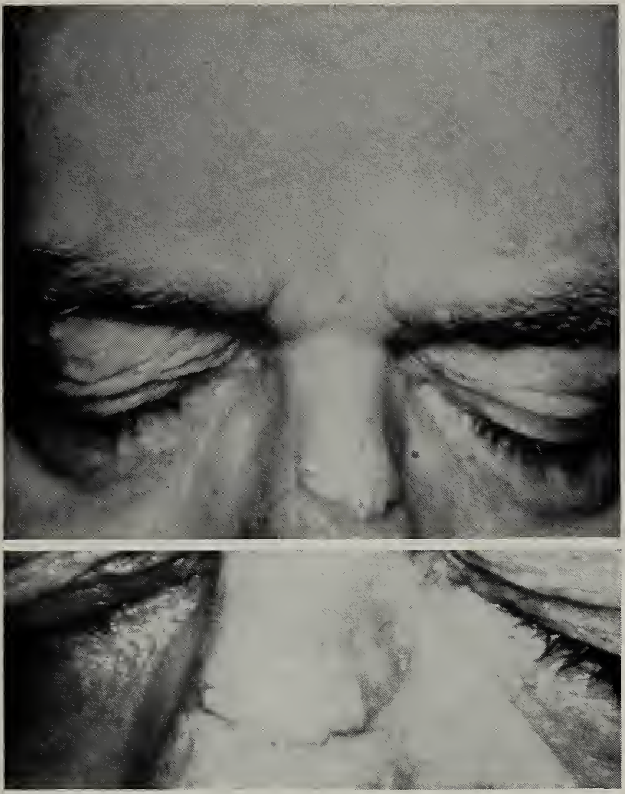


Figure 1.—*Above*, scars of forehead and anterior aspect of nose before dermabrasion. *Below*, close-up of scar and deformity of nose before the procedure.

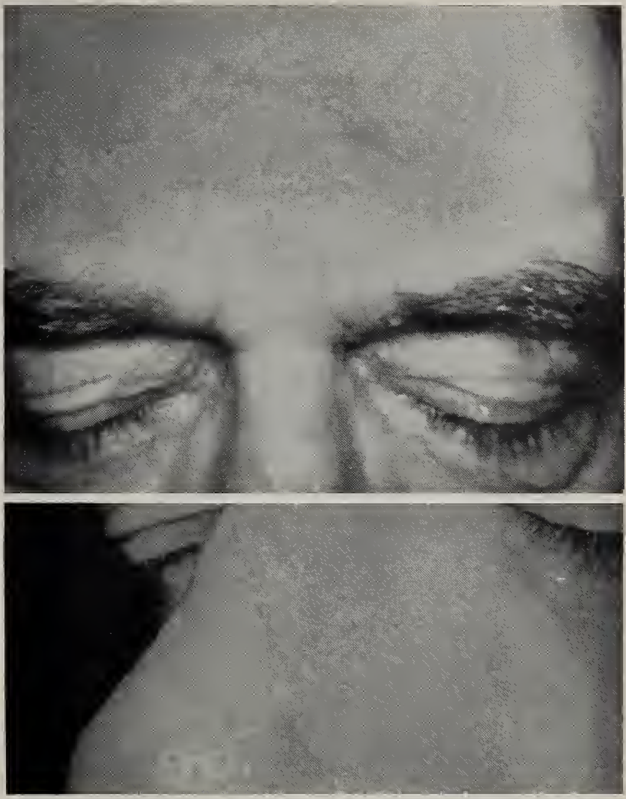


Figure 2.—Forehead and nose two weeks after dermabrasion.

The most common complication is hyperpigmentation. This is greatly reduced by insisting that patients avoid exposure to sun and wind for at least six weeks after the procedure. A sun-screen preparation may be used within ten to fourteen days after the operation. The development of milia is not troublesome; they can be treated with light electrodesiccation but will usually disappear without treatment within three to four months. Although neither persistent erythema nor the development of keloids has been encountered, they must be regarded as potential complications.

The overall incidence of troublesome complications is relatively low, and is offset by the considerable value of the procedure. In addition to a good cosmetic result, the patient is spared the hazards of general anesthesia and hospitalization.

490 Post Street, San Francisco, California 94102.

REFERENCES

1. Bett, D. C. G.: Dermabrasion, Trans. St. John's Hosp., Dermat. Soc., 48:87, 1962.
2. Boo-Chai, K., and Mutou, Y.: Complications after dermabrasion in Asians, Plast. and Reconstruct. Surg., 27:413, 1961.
3. Epstein, E.: Planing for precancerous skin, A.M.A. Arch. Dermat., 74:312, 1956.
4. Epstein, E.: Planing for precancerous skin—A follow-up study, A.M.A. Arch. Dermat., 77:676, 1958.
5. Epstein, E.: Dermatologic surgery in aging skin, A.M.A. Arch. Dermat., 86:399, 1962.
6. Iverson, P. O.: Dermal abrasion, Am. J. Nurs., 57:860, 1957.
7. Johnson, H. M.: Headaches and risks of dermabrasion, A.M.A. Arch. Dermat., 81:26, 1960.
8. McAndrew, J. J.: Removal of linear scars, A.M.A. Arch. Dermat., 80:227, 1959.
9. Strauss, J. S., and Kligman, A. M.: Acne—observations on dermabrasion and the anatomy of the acne pit, A.M.A. Arch. Dermat., 74:397, 1956.

CASE REPORTS

An Unusual Case of Biliary Pleural Fistula

JOHN M. ANDREWS, *M.D.*, TOSHIHISA TAKEI, *M.D.*,
and GERALD ZATLIN, *M.D.*, Torrance

INTRA-ABDOMINAL BILIARY FISTULAE, particularly biliary-enteric communications, have received frequent attention in the medical literature and several good reviews are available.[5,12] Occasional mention is also made of biliary-thoracic fistulae, but biliary-pleural communications have been rarely reported. The purpose of this paper is to report a case of bilateral spontaneous biliary-pleural fistula with several unusual features and to review the pertinent literature.

REPORT OF A CASE

An 80-year-old woman was admitted to Harbor General Hospital for the first time on April 19, 1963, with complaint of mild generalized abdominal aching. For the previous eight years she had noted postprandial, epigastric aching, relieved by antacids, which she had taken for the past five years. There had been occasional bloating with these episodes, not related to any particular food.

Twelve days before admission she had a brief mild episode of epigastric aching which was relieved by antacids. Four days before admission, she had persistent epigastric aching, which gradually became diffuse and was aggravated by deep respirations. Taking antacids or milk of magnesia did not help, and gradual abdominal distention and obstipation occurred. She became nauseated the day before admission and noted that the pain was slightly relieved for short periods by belching or induced vomiting. The vomitus was dark brown. Her last stool, four days before admission, was normal in color and consistency.

There was no past history of fever, nausea, vomiting, pain in the right upper quadrant of the abdomen, biliary colic, fatty food intolerance, jaundice, peptic ulcer, diarrhea, melena or surgical operation. The patient said she had mild chronic constipation. She had had a myocardial infarct ten years before admission, and since that time had been treated with digitalis and diuretics and antihypertensive drugs.

At the time of physical examination the patient was vomiting small amounts of dark brown guaiac-positive liquid. The blood pressure was 140/60 mm of mercury, the pulse rate 90 and very irregular, respirations 24 per minute and oral temperature 97.2°F. The optic fundi showed mild arteriosclerotic changes. Breath sounds had an increased bronchial quality, and mild egophony was present in the lower half of the right lung field, without rales, friction rubs or dullness. Non-radiating grade II systolic murmurs were present along the left sternal border and at the apex, and a decrescendo Grade I diastolic murmur was present at the 3rd and 4th interspaces along the left sternal border. The abdomen was distended, tympanitic and silent. There was mild, generalized, deep abdominal tenderness, slightly more pronounced in the epigastric and periumbilical areas. There were no masses, visceromegaly or signs of peritoneal irritation. A mild cystocele was present.

Leukocytes numbered 8,400 per cu mm—67 per cent neutrophils, 13 per cent lymphocytes, 12 per cent basophils and 8 per cent monocytes. The hematocrit was 44 per cent, the blood urea nitrogen 95 mg per 100 ml, serum amylase 320 Somogyi units, chloride 80 mEq per liter, carbon dioxide 31 mEq, sodium 131 mEq, potassium 3.1 mEq, serum glutamic oxalacetic transaminase 60 units, prothrombin concentration 60 per cent, bilirubin 2.7 mg per 100 ml and creatinine 3.9 mg per 100 ml. Three cultures of blood and material from the throat were negative for pathogenic organisms. The following studies were within normal limits: Alkaline phosphatase, thymol turbidity, slide flocculation test for syphilis, serum protein, serial serum calcium and phosphorus determinations, blood sugar, venous pressure and circulation time. Urinalysis revealed +2 albumin, 2 to 3 white blood cells per high power field and rarely, a red blood cell per high power field. An electrocardiogram showed atrial fibrillation, incomplete

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From the Departments of Medicine and Surgery, Los Angeles County Harbor General Hospital, Torrance, California; and the University of California Los Angeles School of Medicine, Los Angeles.

Submitted September 20, 1963.

TABLE 1.—*Summary of Pertinent Laboratory Tests in Present Case*

Test	Serum	Pleural Fluid	Ascitic Fluid
Bilirubin, total (mg per 100 ml)	2.9	12.8	3.2
Bilirubin, direct (mg per 100 ml)	......	7.1	2.2
Bilirubin, indirect (mg per 100 ml)	......	5.7	1.0
SGOT* (units per 100 ml)	14	75	......
SGPT† (units per 100 ml)	14	50	......
Amylase (King-Armstrong units)	less than 320	less than 320	less than 320
Total protein (gm per 100 ml)	5.5	2.74	1.04
Specific gravity	......	......	1.010
Culture	no growth	no growth	no growth
Leukocytes (per cu mm)	17,900	250	15,000
Cell differential (per cent):			
Polymorphonuclears	91	76	88
Lymphocytes	4	24	12
Monocytes	3	......	......
Bands	2	......	......

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*Serum glutamic oxalacetic transaminase.

†Serum glutamic pyruvic transaminase.

right bundle branch block, digitalis effect and/or ischemia. Abdominal x-rays showed a moderate amount of gas in the colon and small calcific densities in the right lower quadrant. An x-ray film of the chest showed moderate cardiomegaly with mild pulmonary vascular congestion and mild bilateral basilar densities, considered compatible with an acute pneumonic process with minimal effusion.

Fluids were given intravenously; continuous gastric suction yielded green or yellow guaiac-positive material.

On the second hospital day, a gastrointestinal series with contrast medium (Hypaque®) showed a small sliding hiatus hernia and a possible duodenal ulcer. In four hours the contrast medium was seen in the proximal colon. Subsequently infrequent, high-pitched bowel sounds were noted, the distention diminished, and the electrolyte abnormalities improved. Faint dry rales were heard over the left lung base only.

Gradual improvement occurred with increase in bowel sounds and passage of stools that were at first dark brown and guaiac-positive, then yellow-brown and guaiac-negative. Gastric suction was discontinued, but had to be begun again due to return of distention, decreased bowel sounds and regurgitation of antacids and liquids.

On the fourth hospital day the blood urea nitrogen was 55 mg per 100 ml, the bilirubin was 3.9 mg, and the leukocyte count was 21,900, but results of liver function tests were within normal limits. An x-ray film of the chest showed cardiac enlargement, pulmonary vascular congestion and a wedge-shaped density in the right lung base. There had been no cough, pain in the chest or raising of sputum. X-ray films of the abdomen showed higher gas and fluid levels in the small bowel than previously and the same density in the right lower quadrant. The patient continued to pass occasional loose, yellow, guaiac-negative stools. Administration of penicillin was begun although cultures of the blood and of material from the throat grew no pathogenic organisms.

On the fifth hospital day, a rather decided deterioration in the condition of the patient was noted, and dullness to percussion of both lung bases was present. X-ray films of the chest showed pronounced bilateral pleural effusions.

Thoracentesis on the left yielded 600 ml of fluid. The first 100 ml was straw-colored and slightly turbid, the next 400 ml was greenish-brown, covered by a layer of greenish foam, and the last 100 ml was clear amber. A peritoneal aspiration was performed in the right lower quadrant, and clear amber fluid was obtained. Chemical analysis of the serum and pleural and ascitic fluids are shown on Table 1.

A low grade fever developed and the abdomen was noted to be slightly more tender and silent than previously. A repeat venous pressure determination was normal. Just before operation, right thoracentesis was performed and 800 ml of fluid identical in appearance to that taken earlier from the left chest was removed. Exploratory laparotomy was begun through a right subcostal incision which was later extended across the midline. Due to the patient's poor condition, local infiltration anesthesia was employed. Approximately 4000 ml of bile-stained fluid was aspirated from the peritoneal cavity, and the peritoneum was seen to be covered with a shaggy exudate. The entire gastrointestinal tract from the distal esophagus to the rectosigmoid was examined and no site of biliary or enteric perforation or communication was seen. The gallbladder was thickened, distended and slightly edematous. On bilateral manual exploration of the diaphragm, no evidence of perforation or adhesions was noted. Multiple calculi,

TABLE 2.—*Summary of Reported Cases of Proven Non-Traumatic Biliary-Pleural Fistulae*

Case Reference	Sex	Age	Involved Side	Route of Fistula	Underlying Cause	Associated Biliary-bronchial Fistula
Cayley,[4] 1866	Female	63	left	Left lobe of liver through left diaphragm to pleural cavity	Spontaneous — occurring during course of "yellow atrophy of liver."	no
Tuckwell,[20] 1870	Female	60	right	Liver to right diaphragm to right pleural cavity.	"Biliary concretion" in liver, calculi in biliary tract, with obstruction and abscess formation.	Questionable; the sputum containing "brownish substance with a fetid odor" may have been secondary only to the "gangrene of the lung."
Legg,[13] 1873	Female	23	right (and questionably left)	Left lobe of liver to cavity under right diaphragm to pericardial cavity to right pleural cavity.	Gallstone obstruction of common duct with abscess in the left lobe of the liver.	no
Adams,[1] 1955 (case 2)	Male	65	right	Gallbladder to right diaphragm to pleural cavity and bronchus.	Following surgical drainage of gangrenous ruptured gallbladder, due to acute cholecystitis and cholelithiasis.	yes
Present case	Female	80	bilateral	Unknown.	Multiple calculi in biliary tract with obstruction and chronic inflammation.	no

which were irregular, multifaceted, green to tan in color and from 0.3 to 2.0 cm in their greatest dimensions, were removed from the gallbladder, the common bile duct and the hepatic ducts. A tube cholecystostomy and T-tube drainage of the common bile duct were performed.

After operation the serum bilirubin rose to 4.1 mg per 100 ml but then gradually returned to normal. Pleural aspiration was required repeatedly on both sides during the next several days. The aspirated fluid was straw-colored, with a maximum bilirubin of 0.6 mg per 100 ml. The patient's critical condition prevented cholangiographic examination at the time of operation, but on the tenth postoperative day a T-tube cholangiogram showed no abnormality. The T-tube and cholecystostomy tube were removed on the 21st postoperative day. After gradual improvement the patient was discharged seven and a half weeks after operation, ambulatory and eating well.

DISCUSSION

Fistulous communications have been reported between the bile ducts, the gallbladder, the liver and a variety of internal structures — the duodenum, colon, stomach, small intestine, renal pelvis, ureter, urachus, uterus, ovarian cysts, vagina, portal vein, hepatic artery, pericardial cavity, bronchi, and pleura.[5,12] The reported cases have been associated with chronic cholecystitis (nearly always with cholelithiasis and/or choledocholithiasis), peptic ulcer, operations (usually for gallbladder disease or peptic ulcer), parasitic infestation (amebiasis, echinococcosis or ascariasis), trauma, subphrenic abscess, syphilis and malignant disease (carcinoma, sarcoma or lymphoma). The common denominator present in the majority of cases, is obstruction of some portion of the biliary tract.

In a review of the English language literature, the relative rarity of reports of biliary-pleural fistulae as compared with biliary-bronchial fistulae was quite apparent. This is probably due to the formation of abundant scar tissue along the sinus tract, preventing spread of bile into the full pleural cavity. However, this difference in incidence may be less than previously supposed, since careful review of the reported cases of biliary-bronchial fistulae often reveals a pleural effusion occurring at some time during the course*, particularly in cases due to trauma.

Table 2 summarizes cases not etiologically associated with trauma, which we believe present adequate evidence of bile accumulation in the pleural cavity.[1,4,13,20] Of particular interest is Legg's case[13] in which, at autopsy, "bilious fluid" was noted in a loculated area of the right pleural cavity, and "tolerably clear fluid, in which however, several old looking shreds of fibrin float" was observed in the left pleural cavity. Legg said, "I regret that I did not examine for bile-pigment the fluid contained in the left pleura." Also in that case there were communications between the biliary tract and pericardial and peritoneal cavities, the fluid in the latter being described as "turbid bile-stained fluid." We were not able to find report of any case in which fluid containing bile was found in both right and left pleural cavities.

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*References 1, 2, 7, 8, 10, 14, 15, 17, 21.

In spite of the initial attention in the present case to the possibility of biliary disease, the history, physical findings and course over the first several days were more suggestive of ileus secondary to penetrating peptic ulcer, pneumonia or pulmonary infarction. Other case reports often mentioned "pneumonia" that occurred several days before the onset of pleural effusion or appearance of bile in the sputum and was refractory to the usual treatment. The fact that internal biliary fistulae can occur in silent gallbladder disease has been emphasized by Roesel.[18] However, in the present case the roentgen findings were not like those previously reported as characteristic in internal biliary fistulae.[3,6,19] It was only when bile was aspirated from the pleural cavity that a definite indication for operation was found. The absence of an obvious fistula at operation and the subsequent normal cholangiogram emphasize the points of previous reports that the fistulae may be quite small, and regardless of size may be quickly obliterated when the biliary obstruction is relieved.

Failure to demonstrate an obvious fistula at operation in the present case leads to several speculations. Whether the fistula dissected via the bare area of the liver, the lesser omentum, along the falciform or left triangular ligament, or pursued a course unrelated to these structures is unclear. It is possible that perforation occurred first into the right pleural cavity and that leakage to the left ensued. Anatomically, the right and left layers of mediastinal pleura are directly or nearly in opposition between sternum and pericardium in the region of the second to the fourth sternocostal junctions,[9] between the vertebrae posteriorly and the esophagus anteriorly from the third to the fifth thoracic vertebrae,[16] and posterior-inferiorly between the lower end of the esophagus and the aorta the level of the eighth and ninth thoracic vertebrae. The latter region has been referred to as the "meso-esophagus."[9] Ochsner and co-workers[16] reviewed the literature and presented a case in which communication between the two pleural cavities had occurred, stating that it was one of the rarest anomalies of the chest. Most of the reported cases were associated with tuberculosis and were probably acquired. In discussing the meso-esophagus, Ochsner and co-workers said that lung hernias do occur in this region and are not associated with a hernial sac, the parietal pleura being ruptured. Hollinshead[11] observed that failure of development of the pleuropericardial membrane may also result in a communication between the pleural cavities. Although rare, these anomalies would seem to offer a more simplified explanation of the course of events in our case.

SUMMARY

An unusual case of biliary-pleural fistula is reported and the pertinent English language literature reviewed. Consideration of silent biliary disease as a cause of obscure abdominal or thoracic disease is emphasized. Anatomic relationships are briefly discussed.

Division of Neurology, U.C.L.A. School of Medicine, Los Angeles, California 90024 (Andrews).

REFERENCES

1. Adams, H. D.: Pleurobiliary and bronchobiliary fistulas, J. Thorac. Surg., 30:255-262 (3) 1955.

2. Anderson, R. L.: Traumatic bronchobiliary fistulae, Am. Surg., 27:431-6, June 1961.

3. Borman, C. N., and Rigler, L. G.: Spontaneous internal biliary fistula and gallstone obstruction with particular reference to the roentgenologic diagnosis, Surgery, 1:349-378, 1937.

4. Cayley, W.: Dilated bile-ducts opening into the left pleural cavity. Partial yellow atrophy of liver, Tr. Path. Soc. London, 17:160-162, 1866.

5. Dean, G. O.: Internal biliary fistulas, Surgery, 5:857-864, 1939.

6. Flynn, J. M., and Warren, S. L.: The study of a case of broncho-hepatic fistula with roentgenoscopic observations, Am. J. Roentgenol., 20:364-369, 1928.

7. French, R. W.: A bronchobiliary fistula, S. Clin. N. Amer., 10:1109-1117, Oct. 1930.

8. Graham, J. E.: Observations on broncho-biliary fistula (with reports of two cases), Brit. Med. J., 1:1397-1400, 1897.

9. Grant, J. C. B.: A Method of Anatomy, ed. 5, The Williams and Wilkins Company, Baltimore, 1952. (P. 523).

10. Guy, D. C., and Oleck, H. T.: Traumatic fistula with report of two cases due to war wounds, Arch. Surg., 55:316-329, June 1947.

11. Hollinshead, W. H.: Anatomy for Surgeons, Vol. 2, Paul B. Hoeber, Inc., New York, 1956. (P. 26).

12. Karotkin, L.: Spontaneous internal biliary fistula, I. Med. Ann., District of Columbia, 27:623-635 (12) 1958, II. Med. Ann., 28:22-29, 1959.

13. Legg, J. W.: Gall-stone in the common duct; dilatation of all the bile ducts behind it; abscess in the left lobe of the liver, finding its way into the pericardium and right pleura, Tr. Path. Soc. London, 25:133-139, 1874.

14. Loe, A. O., and Loe, R. H.: Bronchobiliary fistula, S. Clin. N. Amer., 10:1109-1117, Oct. 1930.

15. Morton, J. J., and Phillips, E. W.: Biliobrachial fistula, Arch. Surg., 16:679-754, 1928.

16. Ochsner, A., DeBakey, M., and Murray, S.: Absence of the anterior mediastinum with report of case associated with congenital diaphragmatic hernia, Surgery, 6:915-926, 1939.

17. Preston, C. B.: Spontaneous internal biliary fistula, Ann. Surg., 115:1043-1054, June 1942.

18. Roesel, R. W.: Internal biliary fistula in silent cholecystic disease, S. Dakota J. Med. Pharm., 15:173-177, 1962.

19. Shehadi, W. H.: Roentgenologic observations in cases of fistulae of the biliary tract, J.A.M.A., 174:2204-2208, 1960.

20. Tuckwell, H. M.: Obstruction of the hepatic duct by a large biliary concretion, causing abscess of the liver, perforation of the diaphragm, empyema, and gangrene of the lung, Trans. Path. Soc. London, 21:223-228, 1870.

21. Weston, D. A., and Harland, W. A.: Biliobronchial fistula following right hepatic lobectomy for metastatic leiomyosarcoma of the stomach, Brit. J. Surg., 50:331-333, Nov. 1962.

Sudden Death Due to Rupture of the Aortic Valve

PHILIP D. ROTHSCHILD, *M.D. Los Angeles*

SUDDEN, UNEXPECTED DEATH in a healthy or mildly ill adult is virtually always due to a lesion of the heart or great vessels.[1-5] While cerebral vascular accident frequently bears the onus of guilt in persons who die suddenly without apparent cause, death following a stroke does not generally occur until hours or days after the initial episode. Even the most extensive cerebral or subarachnoid hemorrhage seldom kills within minutes.[10,17,23]

The vast majority of sudden deaths are due to ventricular fibrillation secondary to coronary thrombosis. Some are due to large pulmonary emboli from silent or unsuspected thrombophlebitis, and occasionally sudden death occurs upon rupture of an aortic aneurysm. A rare cause may be asystole due to hypersensitive carotid sinus.[9,17,23] In the case reported below sudden death was found at autopsy to be due to rupture of an aortic valve cusp secondary to unsuspected acute bacterial endocarditis.

REPORT OF A CASE

A 47-year-old man first entered the Los Angeles County General Hospital on September 9, 1959, because of injury to his left knee in a fall. Hemoglobin was 14.3 gm per 100 ml and leukocytes numbered 8,300 per cu mm with normal differential of cells. Results of urinalysis were within normal limits. No abnormalities were noted on examination of the heart. On orthopedic examination a Hypaque arthrogram of the left knee, a tear of the medial meniscus was noted. Frequent aspirations for removal of serous fluid from the joint were carried out during this admission. The patient was discharged to orthopedic outpatient care on October 7.

Three months later he entered with complaint of pain for two weeks low in the back and in the flank on the right side. The pain was described as constant and severe with radiation to the right thigh. There had been nausea and vomiting on two occasions and night sweats once or twice, but no chills, fever or other subjective symptoms. There was no history of genito-urinary disease and no unusual ingestion of milk or alkali. The temperature was 97.8 F, the blood pressure 110/68 mm of mercury, the pulse rate 110, and respirations 18 per minute. Splinting and moderate tenderness in the right flank was noted. Cardiac examination showed no abnormalities. Hemoglobin content was 14.0 gm per 100 ml of blood and leukocytes numbered 10,300 per cu mm with normal differential. No abnormalities were noted on urinalysis. Determinations for serum amylase, blood urea nitrogen, carbon dioxide, potassium, alkaline phosphatase, calcium, phosphorus and uric acid were all within normal limits. The serum albumin was 3.1 gm and the serum globulin 4.0 gm per 100 ml. Urine calcium in a 24-hour specimen was normal. No abnormalities were seen on x-ray films of the chest and thoracic spine. A plain film of the abdomen showed splenomegaly. Films of the lumbo-sacral spine showed anterior wedging of the first lumbar vertebra. An intravenous urogram was normal.

During this admission the patient had temperature of 102° F on several occasions but not chills. The symptoms gradually subsided and he was discharged after two weeks on January 13, 1960.

The patient was admitted again February 2 with complaint of pain in the back, abdomen and legs. The blood pressure was 110/58 mm, the pulse rate 100, respirations 32 per minute and temperature 99.6° F. No abnormality was noted on physical examination.

An orthopedic consultation was again obtained and the patient was placed in Buck's traction which considerably relieved his pain. He continued to improve but on February 29 pain in the left hand developed. Tenosynovitis was diagnosed and it was relieved by splinting.

During this admission the patient complained of slight malaise and anorexia. On March 10, the hemoglobin was noted to be 10 gm per 100 ml, and weight loss (of unstated amount) was noted in the chart. Physical examination was carried out and again no abnormality was noted.

On the afternoon of March 17, while having a bowel movement, the patient suddenly experienced severe, unremitting, epigastric pain. Three to four minutes later he was found writhing in agony and ashen-gray in color. The systolic blood pressure was 80 mm and the diastolic pressure unobtainable. No pulse was felt. There was slight upper abdominal guarding. The patient said, "I'm going to die," and within a few seconds he became unconscious and his respiration became gasping in character. On auscultation of the chest only three heart beats were heard in a period of 20 seconds before complete cardiac arrest occurred. When thumping on the chest and intracardiac injection of 1 cc of 1:1000 epinephrine did not cause the heart to resume beating, the chest was opened and cardiac massage was instituted. A maximum of two minutes had elapsed since cardiac arrest. On opening the chest the heart was noted to be cyanotic and arrested but it did not appear di-

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From the Department of Surgery of the University of Southern California School of Medicine and the Los Angeles County General Hospital, Los Angeles.

U.S. Public Health Service Research Fellow, University of Southern California, School of Medicine, Cardiovascular Research Laboratory, Los Angeles.

lated. There was no fibrillation. Mouth-to-mouth respiration was maintained for three to four minutes until an anesthesiologist arrived and an endotracheal tube was inserted. Resuscitation was unsuccessful despite continuous massage and positive pressure breathing with 100 per cent oxygen for 45 minutes and the use of epinephrine, calcium chloride and isoproterenol.

At autopsy the heart weighed 450 grams. The left coronary artery was 50 or 60 per cent occluded at its origin by an arteriosclerotic plaque, while the remaining coronary arteries were widely patent. There were no thrombi or emboli present. There were extensive grayish papillary vegetations present on all three cusps of the aortic valve, the largest measuring 0.5 x 1.0 cm. Slight fusion of the cusps at the commissures was interpreted as minimal stigmata of rheumatic fever. However, no significant deformity of the valves was present. The noncoronary cusp was torn from its free edge to its base (Figure 1). An old 2.5 cm infarct in the right kidney and a fresh splenic infarct were noted.

Bacteriologic examination of the vegetations revealed the presence of gamma streptococci, coagulase-positive hemolytic staphylococci aureus, E. coli and anaerobic Gram-positive bacilli. Histologic sections of the valve cusps and the attached vegetations showed numerous large Gram-positive cocci in clumps and small Gram-positive cocci in chains (Figure 2). No rods or fungi were seen.

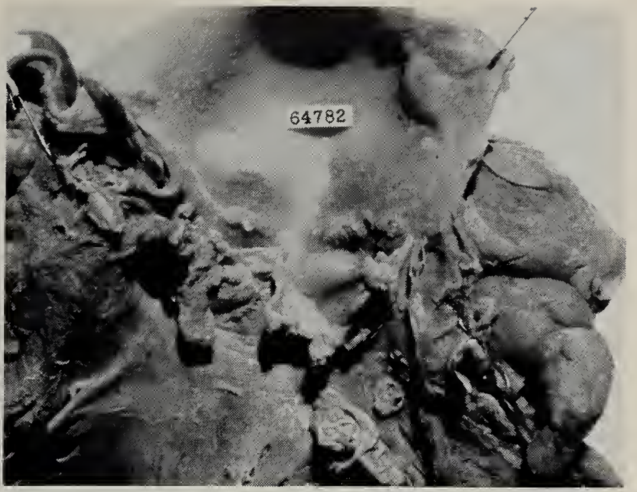

Figure 1.—The aorta, opened through the left coronary cusp. A tear is present in the non-coronary cusp, extending from the free edge almost to the aortic attachment (non-coronary cusp directly under number tag). Vegetations are visible on all three cusps with a large vegetation visible on the right coronary cusp.

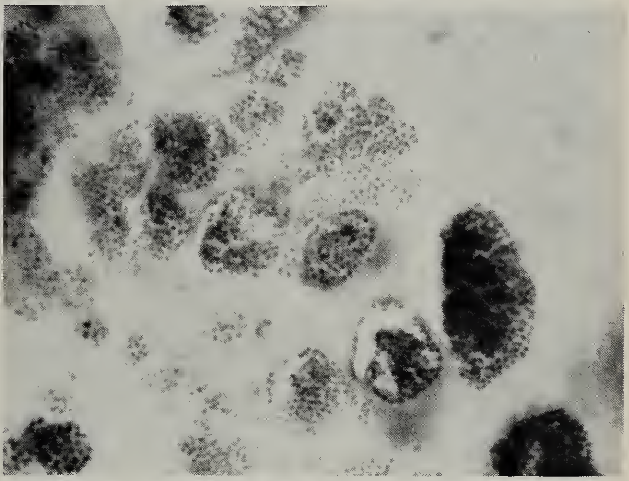

Figure 2.—Gram-stained section of aortic valve showing numerous Gram-positive cocci (× 800).

DISCUSSION

The appearance of aortic regurgitation during the course of rheumatic fever, syphilitic aortitis, bacterial endocarditis, atherosclerosis and hypertension, and with congenital anomalies and in rare associations, such as with rheumatoid arthritis, is well known.

The acute onset of aortic insufficiency may be seen in a variety of circumstances.[1-4,7,8,12-16,18,21,22] Non-fatal, non-penetrating thoracic trauma occasionally results in a tear of one or more aortic leaflets. Bacterial endocarditis, especially if acute, may cause perforation or rupture of a heart valve, aortic cusps being most frequently involved.[7] Acute aortic insufficiency may follow rupture of a sinus of Valsalva aneurysm and may occur with non-fatal dissecting aneurysms of the aorta secondary to atherosclerosis, coarctation, pregnancy or Marfan's syndrome. Valves affected by rheumatic, syphilitic, congenital or atherosclerotic lesions may rupture spontaneously and, in addition, there are several well-authenticated cases of spontaneous rupture of a normal aortic valve during physical exertion or strain.[7,13,21] These latter cases are of much interest in that they suggest a possible contribution of the Valsalva maneuver to the death of the patient in the present case, since the terminal episode began during a bowel movement and it can be shown that there is an abrupt and significant rise in aortic pressure during the Valsalva maneuver.[24]

The onset of aortic valve rupture is usually decidedly symptomatic. Pain, either precordial or epigastric, was noted in 92 per cent of the 112 cases reviewed by Howard.[13] Weakness or syncope, pallor, palpitations, dyspnea and orthopnea are frequently experienced. Some patients report hearing a murmur or feeling a thrill over the precordium. The diagnostic features are the sudden onset of a diastolic murmur and the classical signs of aortic insufficiency.

In the majority of patients in whom rupture of the aortic valve occurs, congestive heart failure develops rapidly and they usually die within one to two years.[7] Carroll[4] recorded the duration of life after aortic valve rupture in nine cases and the mean survival was two and a half months, with a range of one month to three years. Howard[13] reported an average survival of 40 months when rupture was associated with trauma and 18 months in cases of spontaneous ruptures. The longest reported survival is 11 years. Corrigan, in 1838, described a patient who died suddenly following aortic valve rupture but no other similar report could be found.

That sudden death does not occur more frequently upon rupture of the aortic valve is somewhat surprising. When aortic insufficiency develops slowly, the increased load is frequently well tolerated for many years as the left ventricle progressively hypertrophies. However, most of these patients eventually become decidedly symptomatic and the long term prognosis is poor.[7]

Harvey, Segal and Hufnagel[11] reported sudden death in 10 per cent of 300 cases of chronic aortic insufficiency.

When aortic regurgitation is of acute onset the unprepared left ventricle is suddenly subjected to an excessive hemodynamic load while at the same time coronary perfusion is decreased due to the greatly lowered diastolic pressure. With the imposition of these two factors on the adult heart with varying degrees of coronary atherosclerosis, it would not be surprising to see acute fatal ventricular failure, arrhythmias or cardiac arrest.

In the case here reported, the auscultatory findings just before death and the appearance of the heart on opening the chest—cyanotic and arrested—indicates the probable cause of death was a combination of cardiac anoxia due to poor coronary perfusion and acute stretching of the left ventricular myocardium.

The usual history, findings and course associated with bacterial endocarditis are well known. In a small number of cases, however, there may be mild symptoms or none at all.[7] Even acute bacterial endocarditis may be manifest for as long as four or five months by only low grade fever, slight anorexia, insomnia, slight general discomfort without localization, malaise and transient arthralgia.[19]

In retrospect, in the case here reported, several findings might have suggested the possibility of bacterial endocarditis. The patient did have malaise, arthralgia and fever on several occasions, night sweats a few times, mild loss of weight, anemia and roentgenographic evidence of spenomegaly. Apparently none of these was prominent enough alone or a suggestive combination was not present at any one time. The back and flank pain in this case is probably best ascribed to the renal infarct. It is interesting to speculate on the role of the multiple knee aspirations during the first admission in the subsequent development of bacterial endocarditis.

SUMMARY

A case of sudden death due to acute rupture of an aortic valve cusp during unsuspected bacterial endocarditis is presented. The subjects of sudden death and acute aortic insufficiency are discussed briefly. Reflections on the Valsalva maneuver indicate the possibility of warning against strain of that kind in patients with bacterial endocarditis.

2832 Avenal Street, Los Angeles, California 90039.

REFERENCES

1. Austrian, R.: Pneumococcal endocarditis, meningitis, and rupture of the aortic valve, Arch. Int. Med., 99:539-544, 1957.

2. Bean, W. B. and Mohaupt, F. X.: Rupture of the aortic valve, J.A.M.A., 150:92-93, 1952.

3. Bushong, B. B.: Traumatic rupture of the aortic valve, Ann. Int. Med., 26:125-129, 1947.

4. Carroll, D.: Non-traumatic aortic valve rupture, Bull. Johns Hopkins Hosp., 89:309-325, 1951.

5. Coe, J. I., and Hartman, E. E.: Sudden unexpected death in infancy, J. Pediat., 56:786-794, 1960.

6. Corrigan, D. J.: On aortitis, as one of the causes of angina pectoris; with observations on its nature and treatment, Dublin J. Med. Sc., xii:243-254, 1838.

7. Friedberg, C. K.: Diseases of the Heart, W. B. Saunders Company, Philadelphia, 1956.

8. Friedman, B., and Hathaway, B. M.: Fenestration of the semilunar cusps, and functional aortic and pulmonic valve insufficiency, Am. J. Med., 24:549-558, 1958.

9. Hammer, L.: Sudden death. Bull. Johns Hopkins Hosp., 55:387-415, 1934.

10. Harrison, T. R., ed.: Principles of Internal Medicine, McGraw-Hill Book Company, Inc., New York, 1954.

11. Harvey, W. P., Segal, J. P., and Hufnagel, C. A.: Unusual clinical features associated with severe aortic insufficiency, Ann. Int. Med., 47:27-38, 1957.

12. Hays, F. B. and Boggan, W. H.: Rupture of aortic valve cusp attachment due to cystic medionecrosis of the aorta, Ann. Int. Med., 43:1107-1115, 1955.

13. Howard, C.P.: Aortic insufficiency due to rupture by strain of a normal aortic valve, Canad. Med. Assoc. J., 19:12-24, 1928.

14. Kissane, R. W., Koons, R. A., and Clark, T. E.: Traumatic rupture of the aortic valve, Am. J. Med., 4:606-611, 1948.

15. Kissane, R. W., Koons, R. A., and Fidler, R. S.: Traumatic rupture of a normal aortic valve, Am. Heart J., 12:231-234, 1936.

16. Leonard, J. J., Harvey, W. P., and Hufnagel, C. A.: Rupture of the aortic valve, N.E.J.M., 252:208-212, 1955.

17. Levine, S. A.: Clinical Heart Disease, W. B. Saunders Co., Philadelphia, 1958.

18. Matthews, R. J., and Darvill, F. T.: Fenestration of the aortic valve cusps as a cause of aortic insufficiency and rupture, Ann. Int. Med., 44:993-1002, 1956.

19. Meade, R. H., III: Staphylococcal bacteremia and endocarditis, Circ., 19:440-457, 1959.

20. Morrison, S. S.: Sudden and unexpected death in early life, J.A.M.A., 173:1199-1204, 1960.

21. Phillips, R. W., Easton, F. W., and Fulton, M. N.: A case of spontaneous rupture of the aortic valve, Rhode Island Med. J., 32:549-554, 1949.

22. Proudfit, W. L. and McCormach, L. J.: Rupture of the aortic valve, Circ., 13:750-753, 1956.

23. Spain, D. M., Bradess, V. A., and Mohr, C.: Coronary atherosclerosis in unexplained death, J.A.M.A., 174:384, 1960.

24. Wood, P.: Diseases of the Heart and Circulation, J. P. Lippincott Co., Philadelphia, 1956, p. 169.

The "Subclavian Steal" Syndrome

Report of a Case With Surgical Correction

EDWARD W. MILLER, *M.D.*, San Francisco

OWING TO SIMILARITIES in clinical manifestations, frequently arteriographic examinations of patients suspected of intracerebral disease because of ischemic symptoms referable to the vertebral-basilar arterial system will show the cause to be an extracranial lesion, as in the case of "subclavian steal" syndrome here reported.

REPORT OF A CASE

A 62-year-old man had a sudden attack of vertigo with nausea and vomiting which lasted for a few minutes and left him weak but without headache or stiff neck. Moderate vertigo followed during the next 72 hours then ceased. Three days after the attack, the patient was put in hospital for study.

For the preceding three years he had had momentary episodes of faintness with sensation of the room rotating in a counterclockwise fashion, but without headache, nausea or vomiting. Also he had noticed increasing weakness in the right arm and hand and excessive tiring of the muscles of the right upper extremity on minimal exertion. In the two years before admittance he had become forgetful and was often unable to remember the names of fellow employees. Concomitantly he had noted tinnitus and some reduction in hearing. He also had had a mild hypertension for about two years. Poliomyelitis during adolescence had left muscle wasting of the right upper and left lower extremities but he had been able to compensate for this and to work at jobs requiring physical effort.

Blood pressure was 150/90 mm of mercury in the left arm and 115/95 in the right. The radial pulse on the right side was later and weaker than on the left. A systolic bruit could be heard at the base of the neck just above the clavicle on the right side. The muscle wasting previously mentioned was noted. There was nystagmus of the left lateral gaze. Babinski's sign was present on the right and there was some adiadochokinesis on the left.

No abnormalities were observed on examination of the blood and the urine. An x-ray film of the chest showed mild emphysematous changes with widening and tortuosity of the aorta. In an electrocardiogram slight ST depression was noted in V4, V5, V6, AVL and AVF. Prothrombin time, blood urea nitrogen, protein-bound iodine and a serologic test for syphilis showed no abnormality. Labyrinthine studies elicited no evidence of hypersensitivity. Electroencephalograms were within normal limits with

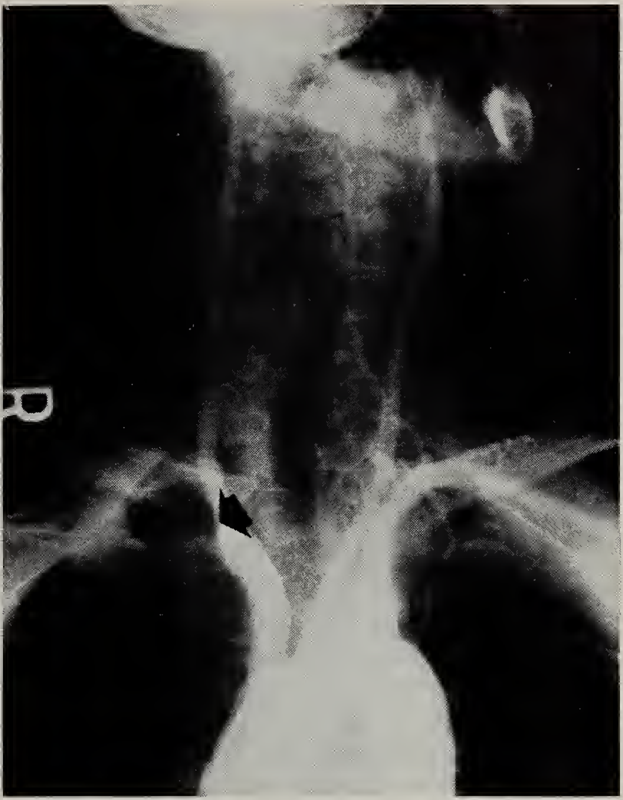

Figure 1.—Arteriogram showing absence of right vertebral artery filling and obliteration of right subclavian artery at its origin (arrow). Both carotid arteries and the left vertebral artery fill normally.

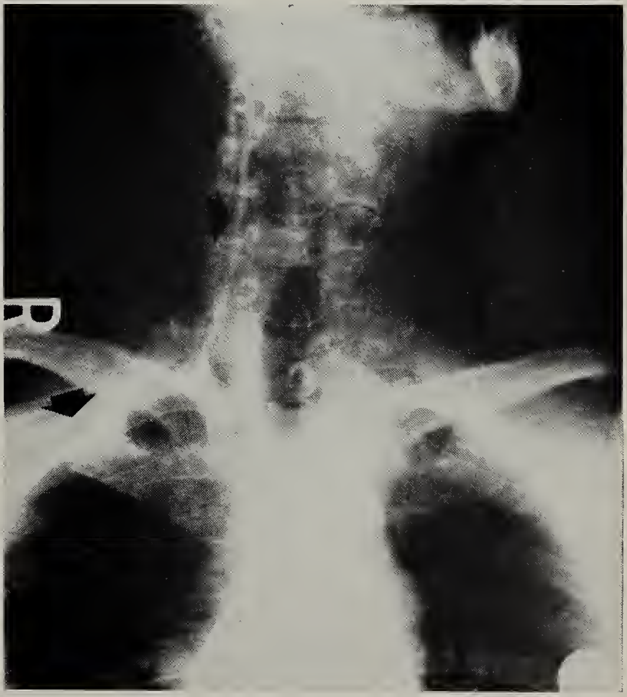

Figure 2.—An arteriogram of same patient as in Figure 1 (later in serial exposures) demonstrating delayed retrograde filling of right vertebral artery (arrow) and late opacification of right subclavian artery as it fills from the vertebral artery (arrow).

Submitted October 22, 1963.

the patient at rest, but showed decided slowing on exercise of the right arm. The consulting neurologist* was of the opinion the patient had a posterior inferior cerebellar artery syndrome secondary to vascular insufficiency and arteriographic studies were recommended.

A retrograde femoral aortogram by the Seldinger technique demonstrated occlusion of the right subclavian artery at its junction with the right common carotid, and also considerable abnormality of the right innominate artery. The right and left common carotid and left vertebral arteries filled immediately from the arch of the aorta (Figure 1) but the right subclavian artery received its blood largely from the right vertebral artery, which failed to fill from the aortic arch but filled in a retrograde fashion from the basilar artery (Figure 2). This demonstrated quite clearly the so-called "vertebral steal syndrome."

The chest was opened by median sternotomy which was extended into the right neck parallel to the clavicle, and the vessels of the aortic arch and the right carotid-subclavian-vertebral system were examined. Atheromatous occlusion of the right subclavian artery for a distance of 2 cm from its origin was noted, and there was also considerable atheromatous degeneration of the right innominate artery and extending into the common carotid artery. There was approximately a centimeter of normal subclavian artery on the right side proximal to the right vertebral artery. In light of the extensive vascular degeneration, neither endarterectomy nor an innominate-subclavian artery graft was considered adequate. A clamp was placed at the point of origin of the right subclavian artery, which then was divided and the occluded section resected. The defect in the innominate artery was closed with sutures. Next, the anterolateral portion of the ascending aorta was isolated with a vascular clamp and a knitted Ivalon® bifurcation graft was attached to the ascending aorta, then was sutured end-to-end to the right subclavian artery and end-to-side to the right common carotid above the area of atheromatous degeneration. Excellent flow in the subclavian artery and augmented flow in the carotid were evident as the clamps were removed. The carotid artery was not occluded during the anastomosis procedure.

The day following operation the patient noted increased strength in the right arm and hand and said that he felt mentally more alert than he had in some months. When examined six weeks later, the blood pressure in the right arm was 140/85 mm of mercury and in the left arm 135/80 mm. There was no bruit audible in the right neck. The radial pulses were strong and simultaneous. Nystagmus had disappeared and the patient volunteered that his memory had returned to normal. He also noted a return of strength to the right upper extremity. He returned to his former occupation.

DISCUSSION

The subclavian steal syndrome[12] is the latest of a series of syndromes of vertebral and basilar artery insufficiency which have been described over the past few years. These are of interest because several quite dissimilar pathological conditions may produce the same clinical signs and symptoms.

Foord,[4] in discussion of a case he reported in 1952, said:

"If one remembers that the basilar artery is formed by the junction of the two vertebral arteries and that the posterior cerebral arteries arise from the basilar, it is evident that the medulla, pons, cerebellum and midbrain all derive their nutrition from blood which flows through the vertebral arteries. It seems quite plausible therefore to conclude that syncope, vertigo, nystagmus, unsteadiness, blurring of vision and diplopia may result from transient reduction of blood flow in one or both vertebral arteries."

The case was that of a 17-year-old boy who had attacks of syncope followed by nystagmus, diplopia, blurring of vision and unsteadiness caused by the interruption of flow through the vertebral arteries secondary to a defect of the odontoid process, with excessive mobility of the second cervical vertebra. Complete relief of symptoms followed surgical fusion of the cervical spine. In the report, Foord cited a paper by Pratt-Thomas and Berger[2] in 1947 describing three patients who died soon after symptoms of cerebral disease developed during chiropractic manipulations of the neck. In two of these cases pathological examination of the brain after death demonstrated thrombosis of the basilar artery and its immediate branches, without resultant softening of the brain stem. No fractures were seen.

In 1960 Sheehan and coworkers[17] described a syndrome termed "spondylotic vertebral artery compression" in 26 patients who were examined by arteriography. The authors noted that the symptoms of acute basilar artery insufficiency resulting from interference with vertebral artery flow included vertigo, explosive in onset, with typical horizontal rotatory nystagmus, loss of hearing, tinnitus and such gastrointestinal symptoms as nausea, vomiting and, sometimes, explosive diarrhea. They said that more severe attacks might also include a blurring of vision, aphasia, ataxia, hemiparesis or even quadriparesis. The latter symptom, occurring suddenly without loss of consciousness, was termed the "drop attack" (an epithet they attributed to Kremer[8]) and was considered pathognomonic for the condition of acute basilar artery insufficiency. Such acute symptoms brought on by sudden turning of the head were judged by these investigators to be caused by acute angulation and compression of the vertebral artery by spondylotic changes in the bones of the cervical vertebra themselves. In addition they noted predisposing arteriosclerosis of the cerebral vessels in most patients.

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*Edw. Shev, M.D.

A rather similar syndrome brought on by rotation of the head or occasionally by tension was recently described by Powers and coworkers,[14] who ascribed it to kinking of the vertebral artery near or at its subclavian origin. Patients having this condition were treated by dividing the deep cervical fascia and carotid sheath, sectioning the anterior scalene muscle and dividing the thyrocervical trunk to release the vertebral artery from its malposition. None of the patients in the series had the more severe forms of basilar artery disease described by Sheehan and coworkers.

In 1959 DeBakey and coworkers[3] reported on 305 patients with arterial insufficiency of the cerebrum and upper extremities. Some of the patients had basilar artery syndrome secondary to obstructive disease of the vertebral arteries, and many of that group had concomitant disease of the carotid arteries. For 66 per cent of patients with occlusion of the vertebral artery, surgical correction was possible. Atherosclerosis was the underlying disease. Webb and Buford[20] described gangrene of the arm as well as acute cerebral damage following the sacrifice of a subclavian artery and its immediate branches in a Blalock anastomosis. Jones and coworkers[6] reported the cases of two patients who died soon after open heart procedures, the clinical symptoms at the time suggesting basilar artery insufficiency. In both cases the vertebral artery had been sacrificed on one side for cannulation purposes.

Thomas[19] reported in 1959 the case of a 26-year-old man who did not recover consciousness after an operation for repair of an interventricular septal defect while a pump oxygenator sustained the patient. In this case the subclavian artery was employed for by-pass and the left vertebral artery was ligated. At autopsy it was noted that there was an anomalous contralateral vertebral artery and that the other communications of the posterior cerebral circulation were inadequate to provide sufficient blood to the brain stem. Jones cited previous anatomical studies by Blackburn,[1] Stopford[18] and Neimains.[11] Combined data from those three investigators showed that of 447 human brain specimens examined, 9.7 per cent had a small vertebral artery on the right, 5.7 per cent a small artery on the left; absence of the vertebral artery on the right side was noted in 3.1 per cent and on the left in 1.8 per cent of the cases.

In 1960, Hardesty,[5] using a non-cannulating electromagnetic flow meter, demonstrated that acute occlusion of the common carotid artery resulted in a completely unpredictable flow pattern: In 50 per cent of the patients the flow was from the internal to the external carotid artery, and in the remainder from the external to the internal. He also noted that in man, when the head is turned to one side, the flow through the internal carotid is reduced on the opposite side. In the same year Contorni[2] demonstrated reversal of flow in the vertebral system in one patient. There were no cerebral symptoms in that case.

More recently Reivich and coworkers[16] described a syndrome of basilar artery insufficiency arising, not as a result of obstruction of flow through the vertebral artery as in the previous instances, but because the vertebral artery is widely patent in the presence of subclavian obstruction. They reported on two patients with cerebral ischemia who were found to have reversal of flow through the vertebral artery on one side secondary to atheromatous obstruction of the subclavian artery proximal to the vertebral orifice. In experiments with dogs they observed that acute occlusion of one or the other subclavian arteries just proximal to the vertebral-subclavian junction reduced the volume of cerebral flow of blood by 41 per cent and brought about reversal of vertebral flow into the forelimb. In an editorial[12] in the *New England Journal of Medicine* this syndrome was called "subclavian steal syndrome."

Six similar cases were reported not long afterward by North and coworkers[16] in the course of a study of over fifteen hundred patients with cerebrovascular disease. They used the term "brachial basilar insufficiency syndrome." Williams and Takaro,[21] Mannick and coworkers[10] and Kate and Scott[11] have recently reported cases of this syndrome.

In patients with symptoms suggesting cerebrovascular disease it becomes increasingly important to study the extracranial circulation in the neck and upper thorax not only because the vascular lesions therein are usually correctable but because any reduction in the flow of blood to the brain greatly enhances the circulatory effects of occlusive disease of the intracranial vessels themselves. Hence a narrowed area in a cerebral artery which might by itself be tolerated may become a serious or fatal obstruction if the total blood flow to the brain is reduced.

In light of the possibility of congenital anomalies of the vascular system and the irregular pattern of aging of blood vessels in the neck and base of the brain,[9] the direction of flow of arterial blood resulting from the occlusion of any one of the four major vessels leading into the head cannot be accurately determined without arteriography. If occlusion or constrictive disease is not apparent in a neutral position, arteriography with rotation of the head would seem advisable. For practical purposes the basilar artery system and parts of the brain supplied directly therefrom may be considered as a system separate from the carotid system, since the volume of flow through the posterior communicating artery on either side cannot be relied on to keep the brain stem alive in the presence of occlusive disease of both vertebral arteries. With occlusive disease of the proximal subclavian artery (as in the case here reported) the ipsilateral vertebral artery may supply a major portion of the blood to the arm. This deprivation of blood, which is increased by exercise, will cause symptoms of arterial insufficiency unless the opposite vertebral and the posterior communicating arteries can maintain a reasonable blood pressure in the basilar system.

Although in children it is usually safe to ligate the vertebral artery on either side in performing arterial shunts in the thorax to increase pulmonary blood flow, statistically there is a 3.1 per cent chance that acute basilar artery insufficiency will be brought about if the right vertebral artery is ligated, and a 1.8 per cent chance if ligation is done on the left. As to what will happen when patients who had vertebral artery ligation in childhood reach a time in life when arteriosclerosis begins to impinge on the blood supply to the brain, one may only conjecture. There are not enough data for a long enough period to supply an answer

As has been pointed out by several investigators, it is imperative to obtain complete contrast studies of the vertebral-carotid system in patients with cerebrovascular disease before surgical intervention is considered. Concomitant studies of the total cerebral circulation will be indicated in many cases.

SUMMARY

The subclavian steal syndrome in an elderly man was corrected with the use of a by-pass graft. A variety of pathological conditions which may give quite similar symptoms of vertebral-basilar artery insufficiency is discussed.

3633 California Street, San Francisco, California 94118.

Acknowledgement: The patient was seen through the kindness of Anton Scheer, M.D.

REFERENCES

1. Blackburn, I. W.: Anomalies of the encephalic arteries among the insane, J. Comp. Neurol. and Psychiat., 17:493, 1907.

2. Contorni, L.: Il Circolo Collaterale Vertebro-vertebrale nella obliterazione dell 'arteria succlavia alla sua origine, Minerva Chir., 15:268, 1960.

3. DeBakey, M. E., Crawford, S., and Fields, W.: Surgical treatment of lesions producing arterial insufficiency of the internal carotid, common carotid, vertebral, innominate and subclavian arteries, Ann. Int. Med., 51:436, 1959.

4. Foord, F. R.: Syncope, vertigo and disturbances of vision resulting from intermittent obstruction of vertebral arteries, Bull., Johns Hopkins Hospital, 91:168, 1952.

5. Hardesty, W., Roberts, B., Toole, J., and Royster, H.: Studies of carotid artery blood supply in man, New. Eng. J. Med., 263:944, 1960.

6. Jones, T., Vetto, R., Winterscheid, L., Dillard, D., and Merendino, A.: Arterial complications incident to cannulation in open heart surgery, Ann. Surg., 152:969, 1960.

7. Kate, W., Jr., and Scott, H. W., Jr.: Cerebral ischemia of central origin relief by subclavian vertebral artery thromboendarterectomy, Surg., 45:19, 1959.

8. Kremer, M.: Sitting, standing and walking: Part I and II, Brit. M. J., 2:63, 2:121, 1958.

9. Magee, D. A., McPhedran, R. S., and Hoffman, H. J.: Carotid and vertebral disease—A clinico-pathologic survey of 70 cases, Neurol., 12:845, 1962.

10. Mannick, J. A., Suter, C. G., and Hume, D. M.: The "subclavian steal" syndrome — A further documentation, J.A.M.A., 182:134, 1962.

11. Neimains, G.: Uber Kaliberschwankingen und Verlaufsanomalian das Interkranialen Abschnitter der A. Vertebralis, Zeitschrift Path., 67:461, 1956.

12. New vascular syndrome—"The subclavian steal," ed., New Eng. J. Med., 265:912-913, 1961.

13. North, R. R., Fields, W. S., DeBakey, M. E., and Crawford, E. S.: Brachial-basilar insufficiency syndrome, Neurol., 12:810, 1962.

14. Powers, S. R., Jr., Drislane, T. M., and Nevins, S.: Intermittent vertebral artery compression—A new syndrome, Surg., 49:257, 1961.

15. Pratt-Thomas, H. R., and Berger, K. E.: Cerebellar and spinal injuries after chiropractic manipulations, J.A.M.A., 133:600, 1947.

16. Reivich, M., Holling, H. E., Roberts, B., and Toole, J. F.: Reversal of blood flow through the vertebral artery and its effect on cerebral circulation, New Eng. J. Med., 265: 878, 1961.

17. Sheehan, S., Bauer, R. B., and Meyer, J. S.: Vertebral artery compression and cervical spondylosis—Arteriographic demonstration during life and vertebral artery insufficiency due to rotation extension of neck, Neurol., 10:968-986, 1960.

18. Stopford, J. S. D.: The arteries of the pons and medulla oblongata, J. Anat. and Physiol., 50:131, 1915.

19. Thomas, G. I., Anderson, K. N., Hain, R. F., and Merendino, K. A.: The significance of anomalous vertebral basilar artery communications in operations on the heart and great vessels, Surg., 46:747, 1959.

20. Webb, W. R., and Buford, T.: Gangrene of arm following use of the subclavian artery in pulmonary systemic (Blalock) anastomosis, J. Thor. Surg., 23:199, 1952.

21. Williams, C. L., and Takaro, T.: Subclavian arterial occlusion, Ann. Surg., 157:48, 1963.

Pulmonary Trichomoniasis Associated With a Fever of Unknown Origin

JOSEPH REBHUN, *M.D.*, Pomona

ACCORDING TO TODD,[4] trichomonas is found in man mainly in the colon but also in the vagina and, rarely, in the sputum of patients with pulmonary gangrene and putrid bronchitis. Unlike other flagellates, trichomonas does not become encysted, and Todd expressed belief that the organism gets into the mouth through ingestion of contaminated food. Other investigators[3] say that the dental and gingival contamination with trichomonas in man occurs directly by mouth to mouth contact. In the present case, pulmonary trichomoniasis in a man apparently was brought about by mouth to vagina contact.

REPORT OF A CASE

The patient, a 47-year-old business executive, sought medical advice because of chronic bronchitis, "hay fever" and fever of unknown origin. He did not appear acutely ill, but while giving his history was frequently interrupted by a hacking cough productive of copious sputum. In the course of a promiscuous sex life he had had gonorrhea and no other venereal diseases. Twice he had had pneumonitis, the second time (25 years ago) so severely that he was in hospital for 28 days and comatose for most of that time. When discharged he had pulmonary tuberculosis with positive sputum. Later x-ray examination showed the disease inactive.

In 1943, following a bad cold, he had rhinorrhea, nasal blockage, conjunctival and nasal pruritus, sneezing and a bronchial cough which was continuously troublesome from then on. A controlled diet and hyposensitization for pollens to which he was strongly reactive ameliorated the symptoms of hay fever but did not reduce the severity of bronchitis. In 1945 for the first time he had fever for which, in spite of extensive diagnostic procedures, no cause could be found. Spells of fever occurred at least once each year thereafter, at first lasting only two days, but finally seven days and more. Oral temperature was as high as 104° F even with the use of acetylsalicylic acid. Before each episode there was a premonitory period characterized by waves of warmth and diaphoresis, about ten a day, that left the patient very weak. Then would follow a period of fever with coughing that did not raise sputum. Within a week after fever abated, coughing raised thick yellow and green phlegm, this phase lasting six to eight weeks before the patient felt well again. Repeated laboratory and x-ray examinations over the years did not result in a diagnosis beyond "fever of unknown origin."

When questioned about his sex life the patient told of mouth-genitalia contact with various women before copulation.

On physical examination the nasal turbinates were hypertrophic and edematous, obstructing the air passage especially on the right. The right ear drum was protruding and pink. The throat was edematous. Anterior cervical nodes were palpable. There was a palpable nodule 0.5 cm in diameter over the lower pole of the left lobe of the thyroid gland. The chest was symmetrical and expiratory excursions good. Mild moist rales were heard, especially in the left lower lobe on deep inspiration, and moist coarse rhonchi over the bronchial tree, clearing after cough. There was no dullness to percussion.

Results of urinalysis were within normal limits and there were no abnormal microscopic findings in the sediment. Protein-bound iodine was 7.3 micrograms for 100 ml of serum. Uptake of I^{131} by the thyroid gland at 24 hours was 15 per cent. A scintigram showed a normal sized gland with activity uniform except for an area of lessened density in the lower pole of the left lobe. Results of serologic tests for syphilis were negative. Hemoglobin content of the blood was 14.8 gm per 100 ml. Leukocytes numbered 8,000 per cu mm with 64 per cent polymorphonuclear cells, 22 per cent lymphocytes, 8 per cent monocytes, 5 per cent eosinophils and 1 per cent basophils. The sedimentation rate (Wintrobe) was 26 mm in one hour (corrected for V.P.C.). A culture of the sputum, which had an abhorrent odor, produced a growth of gamma streptococci, proteus, staphylococcus albus and a non-pigmenting pseudomonas, showing a sensitivity to a number of antibiotics. On cytologic examination of the sputum by the Papanicolaou method, there were no tumor cells, fungi or large lung tissue fragments demonstrated. Examination of a fresh wet specimen of sputum showed numerous pus cells, epithelial cells, red blood cells, flagellates of trichomonas, an object resembling an ovum of paragonimus westermani, numerous Gram-positive cocci and Gram-negative bacilli. On subsequent examinations of a wet specimen of sputum that had been collected after the patient had carefully washed his mouth with hydrogen peroxide, trichomonas parasites were seen. Allergic sensitivity tests elicited very intense reactions to seasonal and to perennial inhalants.

Treatment included chloramphenicol, 250 mg four times a day for four days, followed by chlortetracycline in dosage of 250 mg four times a day for four days after consideration was given to the mixed flora grown in the sputum culture and the results of the sensitivity tests. Specific allergic hyposensitization also was begun. Complete abstinence

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Submitted August 2, 1963.

from the mode used in his sexual relationship was strongly urged upon the patient. Improvement was noted within several weeks and at last report 13 months had passed without either cough or fever. Once during that time penicillin and sulfadimethoxine had been administered for a perforated left ear drum, which healed rapidly.

COMMENT

The chronic bronchitis of this patient over a period of 17 years with a fever of intermittent character is believed to have been caused by a mixed bacterial and trichomonas infection. The evidence on which such belief is based is circumstantial: Trichomonas was found in the sputum during the illness; after the recovery it was absent. Moreover, the culture of the sputum grew Gram-positive cocci and Gram-negative bacilli that showed antibiotic sensitivity to many drugs, but the illness was not abated by these drugs. The fact that when the patient refrained from mouth to vagina contact the previously recurrent, patterned attacks of illness completely disappeared and no trichomonas was found in the sputum, suggests that the "attacks" were caused by reinfection rather than relapse.

That trichomonas was identified only in a fresh wet specimen indicates the importance of direct examination of fresh sputum.

The difference in organ response to the parasite is obvious: Whereas chronic vaginitis induced by trichomonas is very resistant to therapy, the parasite disappeared from the bronchial secretions of the patient in the present case without any trichomonacidal therapy.

Since the Kinsey report[1,2] indicated that mouth-to-genital contact is not uncomon in heterosexual relations, physicians may do well to be alert for complications such as occurred in the case here reported.

SUMMARY

Chronic bronchitis of a 47-year-old man was refractory to all methods of treatment over a period of many years. Extensive laboratory tests failed to disclose the pathogen until, in a fresh wet specimen of sputum, trichomonas was identified. The contamination of the bronchial tree with this pathogen occurred by mouth to vagina contact. A short treatment with antibiotics was given because of other organisms present and the patient's chronic bronchitis and perplexing episodes of fever abated when he abstained from mouth to genitalia proximation.

205 West Pearl Street, Pomona, California 91767.

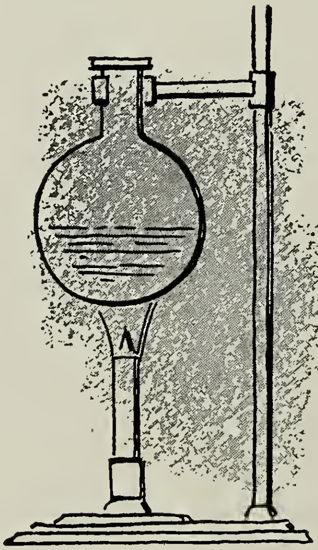
REFERENCES

1. Kinsey, A. C., Pomeroy, W. B., Martin, C. E., Gebhard, P. H., et al.: Sexual Behavior in the Human Female, W. B. Saunders Co., Philadelphia, 257-258, 1953.

2. Kinsey, A. C., Pomeroy, W. B., and Martin, C. E.: Sexual Behavior in the Human Male, W. B. Saunders Co., Philadelphia, 371, 1948.

3. Smith, E. B., Beamer, P. R., Vellios, F., and Schulz, D. M.: Principles of Human Pathology, Oxford Univ. Press, N.Y., 408, 1959.

4. Todd, J. C., and Sanford, A. H.: Clinical Diagnosis by Laboratory Methods, W. B. Saunders Co., Philadelphia, 43, 519, 1945.



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EDITORIAL

Welcome to San Francisco

THIS MONTH San Francisco will again act as host to the annual meeting of the American Medical Association. The event will draw physicians from all parts of the nation and from many foreign lands.

As host city San Francisco is part of a very small list of American cities which can offer the scientific, cultural and physical facilities required to stage a meeting of this magnitude. "The greatest medical show on earth" needs more than hotel rooms to house its attendants. It demands adequate space for meetings and exhibits. It takes superb hospital and medical training centers to demonstrate to sophisticated physicians the manner in which medicine is taught and practiced.

This meeting also demands cultural and scenic attractions which entice the physician's family during the hours that he is engaged in keeping abreast of the latest developments in his professional field. San Francisco has these attractions in its museums, its cable cars, its sidewalk flower stands, its Fisherman's Wharf, its Chinatown, its waterfront, its chic shops, its art dealers and its superb restaurants.

Civic pride aside, San Francisco can well boast of its medical facilities, including a huge medical training complex in University of California Medical Center, the nearby new and beautiful Palo Alto Stanford medical teaching unit, the burgeoning Presbyterian Medical Center's teaching-treatment-research facilities and a number of other top-grade private and charitable hospitals where excellent scientific advances are fostered and practiced. This element attracts physicians who read about such developments and are eager to see them firsthand.

The American Medical Association, in its planning of this huge medical show, brings to California again its tremendous resources of medical education and demonstration. Scientific sessions will be held throughout the five days of the meeting and will cover all specialty groups recognized by AMA. Closed-circuit television and medical motion pictures will add to the scientific program, and panels and discussion groups will bring forth the almost endless array of talent represented by a national medical organization of more than two hundred thousand members.

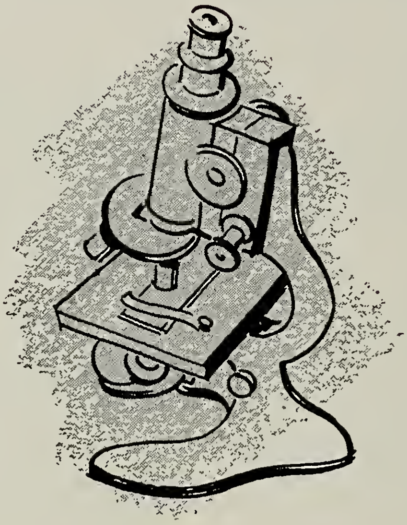
For those who wish to add the visual to the auditory in their medical education, a vast program of scientific and industrial exhibits will be available. What's new in treatment, technique and research will be on display, together with qualified attendants to explain the intricacies. The industrial exhibitors will bring out their latest, their most efficacious, their most dramatic products. Drugs, instruments, apparatus of the most modern type will be on display and under demonstration.

On the social side, a number of medical schools and medical fraternities are planning dinners, meetings, reunions, all designed to maintain school spirit and rekindle old friendships. Members of the House of Delegates and state association officers will have available a no-host dinner like those which in past years have established San Francisco as tops in gastronomical appeal. In addition, Delegates will have daily access to the hospitality rooms of the various state delegations, where friendships are renewed, politics discussed and new friends acquired. All this is part of the democratic process involved in reaching policy decisions and choosing officers to stand at the helm of AMA.

San Francisco's official convention and visitors' officials are, as always, happy to entertain the AMA in this huge meeting which draws a number of persons who are seeking top-quality accommodations and cuisine and are willing to pay for the best. In the past ten years the city has gone out of its way to provide meeting and exhibit space for this gathering. Economically, a convention of this type draws people and dollars into the community and acts as an immense word-of-mouth advertising medium where the services and facilities are attractive.

As one of only four cities in the country where facilities are adequate to handle the AMA meeting, San Francisco has gained its position through past performance. While any city is subject to minor criticisms in the handling of a huge influx of visitors, San Francisco has been able to keep such adverse comments to a minimum. With facilities improving each year, the city can probably look forward to being a part of a regular meeting routine which includes Chicago, New York and Atlantic City as its other bases.

And so, WELCOME AMA. Have a good meeting and a good time. And please plan to come again.



California MEDICAL ASSOCIATION

NOTICES & REPORTS

Transactions of the House of Delegates

Los Angeles, March 21 to 25, 1964

> *Note: The following report of the transactions of the House of Delegates of the California Medical Association is selected and abridged. A complete transcript of all proceedings is on file in the Association office in San Francisco and available for the inspection of all members.*

REFERENCE COMMITTEES

COMMITTEES APPOINTED by Speaker William F. Quinn at the first meeting of the House of Delegates Saturday evening, March 21, were as follows:

Committee on Credentials: John R. Peterson, Riverside, chairman. A through L component societies; Walter W. Hopps, Jr., Los Angeles; John Bullis, Los Angeles; and Donald J. Barry, Arcadia.

M through Z component societies: James Armstrong, Oakland; Dorothy J. Marsh, Glendale; and Joseph Stout, Pasadena.

Reference Committee 1. (This committee reviews the reports of the officers, the Council, the commissions, and standing and special committees.) Donald Abbott, Riverside, chairman; J. Gordon Epperson, Oakland; Clarence T. Halburg, Jr., Redlands; Stanley Kirk, Paso Robles; and Reginald Smart, Los Angeles.

Reference Committee 2. (This committee on finance reviews the reports of the secretary, executive secretary and studies and makes recommendations to the House of Delegates on the budget submitted by the Council and the amount of dues for the ensuing year.) Ian Macdonald, Los Angeles, chairman; Walter F. Carpenter, San Diego; Carl Horn, Sacramento; Norman C. Fox, San Bruno, and A. B. Sirbu, San Francisco.

Reference Committee 3. (This committee considers new and miscellaneous business.) Harold Kay, Oakland, chairman; Joseph F. Boyle, Los Angeles; Howard W. Lindsay, San Mateo; Frank H. Robinson, Chula Vista; and Horace F. Sharrocks, Sebastopol.

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Reference Committee 3A. (To consider business of Committee 3 when the volume becomes too great for one committee to handle.) George S. Buehler, Whittier, chairman; A. Justin Williams, San Francisco; William K. Hokr, San Diego; H. Dean Hoskins, Oakland; Leonard Asher, Beverly Hills.

Reference Committee 3B. (This committee also is a supplement to 3 and 3A.) Clyde Boice, Palo Alto, chairman; Nicholas V. Oddo, Long Beach; Henry Gibbons, III, San Francisco, Melvin Sommer, Beverly Hills; and J. B. Price, Santa Ana.

Reference Committee 4. (This committee considers amendments to the Constitution and Bylaws.) Thomas E. Hanigan, Santa Ana, chairman; Robert L. Watson, Jr., Los Angeles; Chester E. Herrod, San Francisco; Ralph M. King, La Mesa; and Robert L. Day, Bakersfield.

Reference Committee on California Physicians' Service. Henry A. Brown, San Mateo, chairman; Donald R. Fitch, Glendale; Richard L. Taw, Los Angeles; Edward J. Twigg, Oakland; and Milton S. Futterman, Los Angeles.

* * *

PRESENTATION OF FIFTY-YEAR AWARDS

Pins commemorative of 50 years of membership in the California Medical Association have been presented to the following physicians:

Adolph Berg, Saratoga
Mona E. Bettin, Anaheim
C. R. Bricca, San Francisco
Ray A. Carter, Alhambra
Paul Castlehun, San Francisco
A. B. Cecil, Los Angeles
Wirt B. Dakin, Los Angeles
Henry J. Davis, Sacramento
Leo Eloesser, San Francisco
R. P. Giovanetti, San Francisco
Sylvan Haas, San Francisco
Mario Isnardi, San Francisco
S. Nicholas Jacobs, San Francisco
Milton Lennon, San Francisco
Robert Lorentz, San Francisco
Lewis Michelson, San Francisco
W. G. Moore, San Francisco
John D. Morgan, Fresno
Roy H. Morris, San Francisco
A. S. Musante, San Francisco
Charles F. Nelson, Beverly Hills
Dewey Powell, Stockton
Walter F. Schaller, San Francisco
Martin J. Seid, San Francisco

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WOMAN'S AUXILIARY

Mrs. Homer R. Wolfsen, president of the Woman's Auxiliary, reported on the activities in her year of tenure.

* * *

MISCELLANEOUS ANNOUNCEMENTS

The House of Delegates adopted a resolution of encouragement to Doctor Ivan C. Heron, Vice-Speaker of the House, who was ill and unable to attend the session. At its closing meeting the House voted to adjourn in Doctor Heron's honor.

ACTION ON RESOLUTIONS

Ninety-six resolutions were placed before the 1964 House of Delegates. Each was given a hyphenated number, the secondary portion indicating the year. Each resolution was assigned to one of the five reference committees named by the Speaker of the House and each was provided with time for hearings and discussion.

This year for the first time the reference committees were authorized to hold resolutions in committee, a procedure approved by the House of Delegates as a means of dealing with subject matter not deemed to be within the purview of the Association as expressed in its constitutional purposes. Several resolutions were thus handled this year and are shown in the following reports as not reported out by committee or simply "No action taken."

The resolutions not adopted by the House of Delegates are not printed as introduced but copies are available at the CMA office should they be desired.

As listed here, the resolutions which were adopted by the House of Delegates or accepted for referral to the Council, to ad hoc committees or to standing commissions or committees are given in the language approved by the House of Delegates, including such amendments or substitutions as the House accepted.

These resolutions show the title of each item, the authorship, area of origin and the number of the reference committee.

* * *

AIR POLLUTION CONTROL

Resolution No. 1-64 **Committee 3A**

Introduced by: Tenth District

WHEREAS, studies by the California State Department of Public Health and others have conclusively established that lakes of air subjected to pollution exist from Shasta County south through the Central Valley, in the San Francisco Bay Area, and from Los Angeles to the Mexican Border, and

WHEREAS, air pollution has been shown beyond all reasonable doubt to adversely affect the health of man and to have similar effects upon plant and animal life, and

WHEREAS, the CMA recognizes as one of its primary duties the well-being of the citizens of this state; now, therefore, be it

Resolved: That the physicians of this state declare this matter a major health problem and call upon Californians individually and collectively to combat and implement against in any manner necessary in order to return and maintain for all, the clean and fresh air due us and our progeny.

ACTION: Referred to Council.

CPS ASSISTANCE

Resolution No. 2-64 **Committee CPS**

Introduced by: Tenth District

ACTION: Withdrawn by author.

* * *

PARAMEDICAL COMMITTEES

Resolution No. 3-64 **Committee 3A**

Introduced by: San Francisco Medical Society

WHEREAS, the modern treatment and care of the patient demands increasingly the combined efforts of the physician and a wide variety of paramedical personnel in an average ratio of one to five; and

WHEREAS, the proper development of such a relationship requires a better coordinated effort and liaison between physician and paramedical personnel in approaching professional problems of mutual interest relating to social and legislative matters, education and continuing education, licensure, insurance, standards of recruitment, grievances, and other matters ultimately concerned directly or indirectly with patient care; and

WHEREAS, the physician can be of great assistance to local and regional organizations of the paramedical professions through well-established apparatus, facilities and experts which can only lead to improvement in the competence of paramedical aid and assistance; and

WHEREAS, it has been demonstrated that great practical and mutual benefits can be derived from the establishment of a Paramedical Committee to achieve liaison; now, therefore be it

Resolved: That component county societies of the California Medical Association be urged to establish a Paramedical Committee for the purposes of liaison and better mutual understanding, to assist when needed in the legislation and the development of standards, and to provide opportunities for continuing education.

ACTION: Adopted by House.

* * *

NEED FOR PHYSICIANS

Resolution No. 4-64 **Committee 3**

Introduced by: San Francisco Medical Society

WHEREAS, physicians are vitally concerned as a matter of public interest in knowing the number of physicians needed in California; and

WHEREAS, many studies have been made but all are based upon population-physician ratios; and

WHEREAS, some excellent studies of the need for physicians point out the vast changes in medical practice in the past 25 years, the increased mechanization, the increased use of ancillary personnel, etc., and yet these studies ignore these considerations in determining the need for more physicians; now, therefore, be it

Resolved: That the Bureau of Research and Planning be directed to develop statistically valid methods that could be used to calculate the need for physicians in California; and to report their recommendations at or before the next meeting of the CMA House of Delegates.

ACTION: Adopted as amended, above.

* * *

FEES UNDER MAJOR MEDICAL

Resolution No. 5-64 **Committee CPS**

Introduced by: San Francisco Medical Society

ACTION: Not adopted by House.

* * *

FEES UNDER MAJOR MEDICAL

Resolution No. 6-64 **Committee 3B**

Introduced by: San Francisco Medical Society

WHEREAS, an increasing number of patients are covered by both a basic indemnity policy and a major medical policy; now therefore be it

Resolved: That when private insurance companies issue major medical policies, such policies should be structured so that their schedule of benefits takes into consideration the usual and customary fees of physicians; and be it further

Resolved: That the appropriate committee of CMA requests the representatives of the Health Insurance Council to encourage compliance with this recommendation among those of its members who are not already observing this procedure.

ACTION: Substitute motion, above, adopted by House and referred to Council for implementation.

* * *

MEDICAL DISCIPLINE

Resolution No. 7-64 **Committee 3**

Introduced by: San Francisco Medical Society

WHEREAS, the problem of medical discipline of members of the medical profession of this state is undergoing a thorough and impartial study by an ad hoc committee of the CMA as initiated by the House of Delegates in close cooperation with the California State Board of Medical Examiners; now, therefore, be it

Resolved: That this House of Delegates continues to encourage and support the fullest possible study of problems of medical discipline by the ad hoc committee; and be it further

Resolved: That the findings and recommendations of this ad hoc committee be presented when available to the House of Delegates for the delegates' perusal and comments.

ACTION: No action taken by House on resolution but objectives of proposed program drawn up by committee and referred to Council for implementation and report three months prior to 1965 meeting of House. (See also Resolution No. 86-64.)

* * *

VASECTOMY STUDY

Resolution No. 8-64 **Committee 3**

Introduced by: San Francisco Medical Society

ACTION: Withdrawn by author.

* * *

DISASTER PLANNING

Resolution No. 9-64 **Committee 3A**

Introduced by: San Francisco Medical Society

WHEREAS, it is widely acknowledged that hospitals must have adequate plans for disaster; and

WHEREAS, this is recognized by the State of California in its hospital licensing requirements, that hospital disaster plans be brought up to date annually; and

WHEREAS, this is more practical than what is required by the Hospital Accreditation Commission (reference 1959, page 64) which states: "Each hospital *must* have its own individual plans . . . drills or rehearsals of these plans should be held at least twice a year;" now, therefore, be it

Resolved: That the CMA request the AMA to work toward changing disaster requirements of the Hospital Accreditation so that disaster plans need be brought up to date once a year only.

ACTION: Adopted by House.

* * *

PRESCRIPTION LABELING

Resolution No. 10-64 **Committee 3**

Introduced by: San Francisco Medical Society

WHEREAS, pharmacists cannot on ethical and/or legal grounds reveal the ingredients of a prescription on the label in the absence of a *positive* direction to do so by the physicians; and

WHEREAS, the AMA Council on Drugs (JAMA, July 26, 1963) stated that "it favors labeling of prescriptions as a general practice, and furthermore, it is recommended that prescription pads contain boxes for a 'yes' or 'no' on whether to label; if these boxes are not filled in by the physician, the prescription will be labeled." Now, therefore, be it

Resolved: That the California delegation to the AMA ask for a workable policy on labeling of prescriptions.

ACTION: Adopted as amended, above.

* * *

MEDICAL ASSISTANTS COURSES

Resolution No. 11-64 **Committee 3**

Introduced by: San Francisco Medical Society

WHEREAS, there are over twenty junior colleges in California offering instruction to medical assistants; and

WHEREAS, it is desirable to have uniformity in the basic standards of these courses; now, therefore, be it

Resolved: That the CMA Advisory Committee to Medical Assistants review the courses being given and make available advice and assistance when indicated.

ACTION: Adopted as amended, above.

* * *

COST OF RADIATION CONTROL

Resolution No. 12-64 **Committee 3**

Introduced by: San Francisco Medical Society

WHEREAS, the 1961 State of California Radiation Control law requires that the cost of radiation control be financed by collection of license fees from those individuals, businesses, and hospitals using radiation and radioactive materials; and

WHEREAS, federal, state and county facilities required to be licensed under this law do not pay any fees, therefore unfairly increasing the cost of usage to private individuals, businesses, and hospitals; now, therefore, be it

Resolved: That the Council of the CMA request that federal, state and county facilities pay their fair share of licensing with respect to the State Radiation Control program.

ACTION: Adopted by House.

* * *

PUBLIC RELATIONS

Resolution No. 13-64 **Committee 3**

Introduced by: San Francisco Medical Society

WHEREAS, in 1960 the House of Delegates endorsed an accelerated program of public relations; and

WHEREAS, the California Medical Association has recently employed a qualified Director of Communications to develop and supervise this program; now, therefore be it

Resolved: That the House of Delegates urges the Council to supply all necessary assistance and funds to the Director in carrying out an effective program.

ACTION: Adopted as amended, above, in place of original and Resolution No. 28.

* * *

HEARING AND SPEECH CENTER

Resolution No. 14-64 **Committee 3**

Introduced by: San Francisco Medical Society

WHEREAS, some Hearing and Speech Centers throughout the country have been offering diagnosis and therapy to the public without prior medical referral; and

WHEREAS, hearing loss is obviously a medical problem which frequently requires the paramedical aid of the audiologist and speech therapist; now, therefore, be it

Resolved: That the CMA approve the principle of adequate medical examination and medical referral prior to accepting any patient for technical testing or therapy; and be it further

Resolved: That the CMA Delegation to the AMA so advise the AMA House of Delegates.

ACTION: Adopted as amended, above.

* * *

PREPAYMENT FOR AFTER-RETIREMENT MEDICAL CARE INSURANCE

Resolution No. 15-64 **Committee 3B**

Introduced by: Carl E. Anderson
Representing: The Council

WHEREAS, the principle of saving, during period of adequate income, for the needs of later years is an established tradition among self-reliant persons; and

WHEREAS, prepayment during working years for after-retirement medical care insurance is now available on a limited scale; and

WHEREAS, the California Medical Association endorses the principle of voluntary medical care insurance to ease the financial burden of serious illness, especially for those individuals who, because of retirement or other factors, are least able to meet these costs; now, therefore, be it

Resolved: That the California Medical Association endorses the principle of *voluntary* prepayment, rather than the Social Security approach, during working years for after-retirement medical care insurance; and be it further

Resolved: That the Council and Officers of the California Medical Association be directed to use all reasonable methods to stimulate and encourage such coverage for the people of the State of California; and be it further

Resolved: That the American Medical Association be informed of this action and be encouraged to work for the development of voluntary prepayment for after-retirement medical care insurance on a nation-wide basis.

ACTION: Adopted by House.

* * *

MEDICAL CARE FOR ALL

Resolution No. 16-64 **Committee 3**

Introduced by: Carl E. Anderson
Representing: The Council

WHEREAS, the Constitution of the California Medical Association proclaims that one of its major purposes is to protect the public health; and

WHEREAS, this Association has for many years actively dedicated itself to the principle that no person should be deprived of necessary medical care because of race, creed, color or financial status; and

WHEREAS, as a result of these efforts and with the cooperation of numerous voluntary and governmental agencies, adequate medical care is available to all residents of the State; and

WHEREAS, recent statements by various governmental and other agencies have implied that this objective is one yet to be achieved; now, therefore, be it

Resolved: That the California Medical Association reaffirm its position that adequate medical care is and should be available to all of the people of this State regardless of race, creed, color or financial status; and be it further

Resolved: That the California Medical Association continue to extend its pledge of utmost cooperation to the people of California and their representatives in labor, management, insurance, industry and government in order to further guarantee and improve the availability of medical care to the public; and be it further

Resolved: That the California Medical Association encourage its component societies to make available to, and so inform the public, informational and referral services for anyone requiring medical care.

ACTION: Adopted by House.

* * *

LIAISON WITH LABOR ORGANIZATIONS

Resolution No. 17-64 **Committee 3**

Introduced by: Carl E. Anderson
Representing: The Council

WHEREAS, the basic philosophy of the major labor unions in the United States is and has traditionally been that of a free labor movement avoiding governmental domination; and

WHEREAS, this philosophy is shared by the California Medical Association and the American Medical Association; and

WHEREAS, the current legislative demands of many labor unions would result in the complete domination and control of the medical profession and hospitals by the Federal government; and

WHEREAS, such an occurrence would: (1) result in less desirable and less adequate medical care for the American public; (2) seriously interfere with the ability of the physician to provide the unparalleled medical care now available to all Americans, and (3) seriously weaken the ability of the labor movement itself to remain a free agent in American social, political and economic spheres; and

WHEREAS, labor's current policy regarding the provision of medical care would appear to stem from lack of understanding of medicine's aims and objectives—resulting from lack of liaison and communication; now, therefore, be it

Resolved: That the California Medical Association express to the officers and members of the major labor organizations in California their mutual concern for the adequacy, availability and economy of medical services necessary for all of the people of California; and be it further

Resolved: That the Officers and Council of the California Medical Association make every reasonable effort to establish a friendly working liaison with representatives of labor for the purpose of better acquainting labor representatives with the aims, purposes and objectives of medicine and to strive for the mutually satisfactory solution of problems relating to the health, safety and medical care of the union member and his dependents.

ACTION: Adopted by House.

* * *

CANCER ADVISORY COUNCIL

Resolution No. 18-64 **Committee 3**

Introduced by: Carl E. Anderson
Representing: The Council

WHEREAS, the California Medical Association, through action of the then Commission on Cancer and this House of Delegates on 30 April 1958, was instrumental in securing passage of Senate Bill No. 194 (1959), which created the Cancer Advisory Council to combat quackery; and

WHEREAS, the Cancer Advisory Council has unquestionably decreased the amount of cancer quackery in California; and

WHEREAS, Senate Bill No. 194 (1959) expires on December 31, 1965; now, therefore, be it

Resolved: That the California Medical Association favors continuation of the Cancer Advisory Council (with adequate support for its responsibilities).

ACTION: Adopted by House.

KERR-MILLS PROGRAM

Resolution No. 19-64 **Committee 3B**

Introduced by: Carl E. Anderson
Representing: The Council

Resolved: That this House of Delegates reaffirm its position, and that of the AMA House of Delegates, that medical programs in all categories of public assistance to the needy on the Federal and State levels be combined into a single program and incorporated with the MAA into a new title of the Kerr-Mills Act; and be it further

Resolved: That any state which provides both OAA and MAA may designate a single agency to administer or supervise OAA *and* a separate agency to administer or supervise MAA; and be it further

Resolved: That the definition in the present MAA law relating to income and resources insufficient to meet the costs of necessary medical service be changed to read, "...An individual ineligible for benefits because of income and resources greater than permitted by the plan, *may become eligible for benefits upon incurring a medical expense, or the obligation of a medical expense, sufficient to reduce his income and resources to an amount below the maximums permitted by the plan;*" and be it further

Resolved: That a state plan shall provide for a Medical Advisory Committee, of which no less than two-thirds shall be doctors of medicine who are not in the employ of the federal or state government. This committee shall conduct studies to determine the efficiency of the program and the extent to which the need for medical assistance is being met; and be it further

Resolved: That the law shall be amended to provide for free choice of hospital and physician, provided the physician is licensed and the institution conforms to established standards; and be it further

Resolved: That the fees paid to private hospitals for MAA patients be at least adequate to meet the costs of providing the services, and that they be no less than the fees paid by other state agencies for the same services; and be it further

Resolved: That the fees paid to physicians shall be based upon their usual and customary charges for such services; and be it further

Resolved: That the mechanism of insurance and prepayment be extended to the recipients of medical care under the MAA program; and be it further

Resolved: That the time limitation and the dollar corridor be reduced in California from 30 to 21 days and from $2,000 to $500 respectively; and be it further

Resolved: That the intent of this resolution be forcefully presented to the appropriate state agencies with the recommendation that the current allocations of Kerr-Mills funds to other welfare programs be terminated; and be it further

Resolved: That all involved CMA representatives be instructed and empowered to not merely advise and consult but to negotiate vigorously for the enactment of the proposals of this resolution; and be it further

Resolved: That this resolution be referred to the Council for immediate implementation.

ACTION: Reference committee combined Resolutions 19-64, 69-64, 70-64, 71-64, 73-64 and 87-64 into a substitute, above. On vote, the first "Resolved," above, was referred to the Council and the balance adopted by the House.

* * *

FEES, INDUSTRIAL ACCIDENT COMMISSION

Resolution No. 20-64 **Committee 3B**

Introduced by: Sonoma County Medical Society

WHEREAS, the Industrial Accident Commission official minimum fees do not adequately compensate the physician for his services; and

WHEREAS, petitions in 1962, by the California Medical Association to the California Industrial Accident Commission to amend the fee schedule, did not result in such changes; now, therefore, be it

Resolved: That the Sonoma County Medical Society requests and urges the California Medical Association to take affirmative steps to seek improvement in the level of fees in Industrial Accident cases, to provide the physician with a fair and reasonable compensation for services rendered.

ACTION: Adopted by House.

* * *

DEFINITION OF TERMS

Resolution No. 21-64 **Committee 3B**

Introduced by: Los Angeles Delegation

WHEREAS, this House of Delegates adopted, in 1963, a "Definition of Terms;" and

WHEREAS, that said definitions are in need of clarification as to the meaning thereof; now, therefore, be it

Resolved: That, in order to clarify the meaning of the "Definition of Terms," passed by this House of Delegates in 1963, the following definitions shall be considered as those officially approved by the House of Delegates of the California Medical Association:

(a) *Usual.* The "usual" fee is that fee usually charged, for a given service, by an individual physician to his private patient (i.e., *his own usual fee*);

(b) *Customary.* A fee is "customary" when it is within the range of usual fees charged by physicians of similar training and experience, for the same service within the same specific and limited geographical area (socio-economic area of a metropolitan area or socio-economic area of a county);

(c) *Reasonable.* A fee is "reasonable" when it meets the above two criteria, *or* in the opinion of the responsible Medical Association's Review Committee, is justifiable, considering the special circumstances of the particular case in question.

ACTION: Adopted as amended, above.

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CPS ADVERTISING

Resolution No. 22-64 **Committee CPS**

Introduced by: Los Angeles Delegation

ACTION: Not adopted by House.

* * *

DISCRIMINATION

Resolution No. 23-64 **Committee 3**

Introduced by: San Francisco Medical Society

WHEREAS, in the State of California the policy has been one of no discrimination as to race, color, creed or sex in medical training, hospital privileges or in medical society membership; now therefore be it

Resolved: That the CMA reaffirms its principle that membership in any component society is based on competency, ability, ethics and moral character alone; and be it further

Resolved: That the CMA House of Delegates urges the AMA House of Delegates to reaffirm its forthright stand favoring equal treatment of all physicians, regardless of race, creed or color, in the determination of competence to belong to component societies, and be it further

Resolved: That the CMA House of Delegates advises the AMA that *it* has the responsibility to continue to take whatever steps are possible to determine that all its component societies do enact rules and practices which make medical competency and ethical standards the sole considerations for membership; and be it further

Resolved: That CMA delegates to the AMA House of Delegates be instructed to introduce the exact sense of this resolution into the next regular session of that body and extend every effort towards its adoption.

ACTION: Adopted as amended, above. Resolution No. 68-64 included in this action.

HOSPITAL AUTHORITY

Resolution No. 24-64 **Committee 3**

Introduced by: San Francisco Medical Society

WHEREAS, hospitals are assuming increasing authority in the professional conduct of hospital affairs; and

WHEREAS, physicians are relinquishing professional responsibilities to hospital administration; and

WHEREAS, this is in many cases inimical to the best interests of medical practice and is in violation of the Guiding Principles of the CMA and CHA Physician-Hospital Relationship; now, therefore, be it

Resolved: That the CMA undertake a survey regarding increasing assumption of authority by hospital administrators in professional matters and possible violations of Guiding Principles and report the results of this survey to the Council and that its action be reported to the House of Delegates at the next meeting.

ACTION: Adopted by House.

* * *

MULTIPLE POLICIES

Resolution No. 25-64 **Committee 3B**

Introduced by: San Francisco Medical Society

WHEREAS, the health insurance industry is aware of the problem of multiple coverage and has been working toward its solution; now therefore be it

Resolved: That the problems presented in this resolution be referred to the Commission on Medical Services for further discussion and exploration with representatives of the health insurance industry; and be it further

Resolved: That a report be given to the House of Delegates at its next meeting on the progress that has been made in coping with the problem of multiple insurance policies.

ACTION: Substitute resolution, above, adopted by House.

* * *

STATE FEE ALLOWANCES

Resolution No. 26-64 **Committee 3B**

Introduced by: San Francisco Medical Society

WHEREAS, the California Relative Value Study represents a continuing effort by the CMA to reflect the current and equitable values of medical services throughout the State of California; and

WHEREAS, appropriate conversion factors have been employed to reflect the customary fees for service of the majority of physicians engaged in private practice in the State; and

WHEREAS, the Department of Finance of the State of California has recently adopted a "schedule of maximum allowances" which does not conform to the current Relative Value Study; now therefore be it

Resolved: That the legislative and executive branches of government of the State of California be immediately informed that the "Schedule of Maximum Allowances of the State of California" is not acceptable to the House of Delegates of the California Medical Association; and be it further

Resolved: That the State of California be requested to compensate physicians on the basis of the current Relative Value Study, utilizing conversion factors which reflect the usual and customary fees for medical services; and be it further

Resolved: That an ad hoc committee of this House be appointed and given full authority to implement the intent of this resolution.

ACTION: Substitute resolution, above, adopted by House. This action also included Resolutions No. 27-64, 30-64, 39-64, 47-64 and 52-64.

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REASONABLE AND CUSTOMARY FEES

Resolution No. 27-64 **Committee 3B**

Introduced by: San Francisco Medical Society

ACTION: See Resolution No. 26-64.

* * *

BRYAN REPORT

Resolution No. 28-64 **Committee 3**

Introduced by: San Francisco Medical Society

ACTION: See Resolution No. 13-64.

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SOCIAL SECURITY POLL

Resolution No. 29-64 **Committee 3**

Introduced by: P. H. Cronenwett and E. K. Blasdel
Representing: Alameda-Contra Costa Medical Association

ACTION: Not adopted by House.

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STATE MEDICAL FEES

Resolution No. 30-64 **Committee 3B**

Introduced by: Alameda-Contra Costa Delegation

ACTION: See Resolution No. 26-64.

* * *

PROPRIETARY HOSPITALS

Resolution No. 31-64 **Committee 3**

Introduced by: Alameda-Contra Costa Delegation

Whereas, proprietary hospitals are becoming increasingly important in medical care in California; and

Whereas, physician ownership of these hospitals has led to accusations of conflict of interest; and

Whereas, right or wrong, accusations concerning the fiscal practices and quality of medical care in these hospitals continue to be heard; and

Whereas, this and other accusations reflect adversely upon physicians and hospitals in general; and

Whereas, if true, the practices alleged in these accusations would adversely affect the medical care of the people of California and might unnecessarily raise the costs of medical care; now, therefore, be it

Resolved: That the Speaker of the House appoint an ad hoc committee to study:

1. The number, distribution, ownership and income of proprietary hospitals in California.
2. The quality of medical care provided in such proprietary hospitals.
3. The adequacy of their facilities and non-professional personnel.
4. The costs of hospitalization and hospital services in the proprietary hospital as compared with other hospitals or general averages.
5. The ethical aspects of the physician's proprietary interest in the fiscal returns of a hospital in which he practices, with specific reference to the ethics of ownership in pharmacies or dispensors of optical appliances; and be it further

Resolved: That an effort be made to work in concert with the California Hospital Association in these studies; and be it further

Resolved: That the committee reports its progress to this House, at the 1965 session, together, if possible, with recommendations as to appropriate action.

ACTION: Referred to Liaison Committee to California Hospital Association.

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CLOSED PANEL BENEFITS

Resolution No. 32-64 **Committee 3B**

Introduced by: Alameda-Contra Costa Delegation

ACTION: Not adopted by House.

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CHIROPRACTIC PAYMENTS

Resolution No. 33-64 **Committee 3B**

Introduced by: Alameda-Contra Costa Delegation

Whereas, persons whose medical care is provided through public agencies should receive care that meets recognized standards of quality; and

Whereas, the Public Assistance Medical Care Program now pays for "health services" by chiropractors, who have never been to medical school; and

Whereas, the chiropractic fee scedule of the Public Assistance Medical Care includes chiropractic services such as "complete history and physical examination" @ $17.50, "consultation requiring complete examination" @ $24.50, and "prolonged detention with critical patient" @ $14.00 per hour; and

Whereas, in the 1961-62 fiscal year, the State Department of Social Welfare paid $686,000 for chiropractic services to Public Assistance recipients; and

Whereas, this tax money has been paid to chiropractors for "treatment" of such diseases as scarlet fever, diabetes, hypertension, glomerulonephritis, anemia, myocardial failure, stroke, and other diseases for which chiropractic treatments are ineffective and inappropriate; and

Whereas, this results in a waste of public funds and subsidization of unqualified medical practice by the State of California; now, therefore, be it

Resolved: That the California Medical Association urge that the Department of Social Welfare and other State agencies discontinue payments to chiropractors for services they are neither qualified nor licensed to perform.

ACTION: Adopted by House and referred to Council for implementation.

* * *

PRIVILEGED COMMUNICATIONS

Resolution No. 34-64 **Committee 3**

Introduced by: Alameda-Contra Costa Delegation

Whereas, it is apparent that in recent years a slow but constant erosion of the privileged status of communications between doctor and patient has occurred in the State of California and other states; and

Whereas, the social and medical importance of secrecy between doctor and patient is at least equal to the social importance of secrecy between priest and parishioner and between lawyer and client, now, therefore, be it

Resolved: That the California Medical Association study, in cooperation with the California Bar Association, if possible, the problems of privileged communication between doctor and patient, with a view to preventing further erosion of the privileged nature of doctor-patient communication and the prevention of interference with the provision of good medical care to all people.

ACTION: Adopted by House.

* * *

IMMUNITY FROM SUBPOENA

Resolution No. 35-64 **Committee 3**

Introduced by: Alameda-Contra Costa Delegation

Whereas, it is in the public interest that medical organizations make thorough and proper inquiry into accusations of malpractice lodged against physicians by patients, and that medical societies continue to be able to investigate professional activities of their members; and

Whereas, members of committees making such inquiry in good faith have been harassed, embarrassed and inconvenienced by plaintiff's attorneys who subpoena them in groups for expert opinion, hypothetical questions, and information concerning the deliberations of the committee on specific cases in which the plaintiff's attorney is interested; and

Whereas, continued harassment of this kind will make it impossible for such committees to function; now, therefore, be it

Resolved: That the California Medical Association make representations to the Legislature of the State of California suggesting legislation to make the deliberations of such committees immune from such harassment by subpoena.

ACTION: Adopted by House.

* * *

INSURANCE COVERAGE

Resolution No. 36-64 **Committee 3B**

Introduced by: Alameda-Contra Costa Delegation

Whereas, in the majority of states Blue Cross and/or Blue Shield make payments for certain medical services performed by physicians in private practice outside hospitals; and

Whereas, in many states Blue Cross and/or Blue Shield do pay for the hospitalization of patients for physical medicine and rehabilitation services on the same basis as for any other area of medical practice and care; and

Whereas, some Blue Cross and/or Blue Shield contracts allow payment for physical medicine and rehabilitation services performed outside as well as within hospitals; now, therefore, be it

Resolved: That the California Medical Association support the policy that physical medicine and rehabilitation is an integral part of medical practice, and refer for study the question of insurance coverage for use of these treatment measures in the same manner as other valid methods of treatment.

ACTION: Adopted by House and referred to Council for implementation.

* * *

HEALTH EDUCATION IN PUBLIC SCHOOLS

Resolution No. 37-64 **Committee 3**

Introduced by: Alameda-Contra Costa Delegation

Whereas, there is a growing health problem in our schools and colleges, reflected in an increasing incidence among adolescents of venereal disease, pregnancy, use of alcohol and tobacco, early marriage and divorce and mental illness; and

WHEREAS, there are at present no adequate standards of instruction in public health, personal hygiene, and preparation for marriage in public schools; and

WHEREAS, this problem is properly the concern of physicians; now, therefore, be it

Resolved: That the CMA request its Committee on School Health to be available to the interim committee considering Senate Resolution No. 158 for any assistance it can provide.

ACTION: Adopted as amended, above.

* * *

DRIVER FITNESS

Resolution No. 38-64 **Committee 3**

Introduced by: Alameda-Contra Costa Delegation

WHEREAS, a number of patients over 65 years of age are now unable to obtain automobile insurance unless they submit a "Driver Fitness Form" completed and signed by a physician; and

WHEREAS, these forms may require the physician to state whether the patient is physically fit to operate an automobile; and

WHEREAS, other than the standards required by the State for granting licenses to drive motor vehicles, there are no uniform standards for the degree of physical fitness needed for safe operation of an automobile; and

WHEREAS, there is need to clarify the entire subject of "Driver Fitness Forms," including: (a) the legal liability of the physician who certifies his patient as physically fit to drive safely; (b) the discrimination against over-65 drivers in requiring examinations and forms that are not required for under-65 drivers; (c) the financial responsibility for the cost of these examinations and medical reports; (d) the standards for the degree of physical fitness necessary to permit safe driving, and (e) the availability of automobile insurance to over-65 drivers who are licensed by the State to operate motor vehicles, but have difficulty obtaining automobile insurance because of failure to meet an individual company's requirements for physical fitness; now, therefore, be it

Resolved: That the Traffic Safety Committee of the California Medical Association be asked to study the problem of Driver Fitness Forms, and to present its recommendations to the California Medical Association Council for implementation.

ACTION: Adopted by House.

* * *

STATE FEE ALLOWANCES

Resolution No. 39-64 **Committee 3B**

Introduced by: Alameda-Contra Costa Delegation

ACTION: See Resolution No. 26-64.

LIMITED NURSE LICENSES

Resolution No. 40-64 **Committee 3**

Introduced by: Santa Barbara County Medical Society

ACTION: Not reported out by committee.

* * *

COOPERATION WITH OFFICIAL COMMITTEES

Resolution No. 41-64 **Committee 4**

Introduced by: Santa Barbara County Medical Society

ACTION: No action taken by House.

* * *

UNBIASED RESEARCH ON THE EFFECTS OF THE USE OF TOBACCO

Resolution No. 42-64 **Committee 3**

Introduced by: C. Gerald Scarborough
Representing: Santa Clara County

(a) ***Resolved:*** That this House of Delegates reaffirm the action of the 1963 House of Delegates "that the CMA take steps on a statewide basis to publicize, particularly in schools and homes, the harmful effects of cigarette smoking."

(b) ***Resolved:*** The California Medical Association feels that research has an important part in continued improvement of the medical care of our citizens and that this House of Delegates recognizes the need for continued study of unexplored areas of research in relationship between smoking and lung diseases, atherosclerosis, cardiac conditions and other related diseases.

(c) WHEREAS, in California it is recognized that on many occasions funds are offered to medical and/or scientific groups for various research projects; now, therefore be it

Resolved: That the CMA states that its firm policy is that any such funds will be accepted after due consideration, provided there are no limitations which may influence their research design, results or publication thereof.

ACTION: Three substitute resolutions, above, offered by committee in place of original. All three approved by House.

* * *

DOCTOR-PATIENT RELATIONSHIP

Resolution No. 43-64 **Committee 3B**

Introduced by: John T. Saidy
Representing: San Mateo County

ACTION: Not adopted by House.

* * *

LABELING LAW

Resolution No. 44-64 **Committee 3**

Introduced by: San Mateo County Delegation

ACTION: Not adopted by House.

MEDICAL REPORTS UNDER THE GOVERNMENT-SPONSORED HEALTH PLANS

Resolution No. 45-64 **Committee 3B**

Introduced by: San Mateo County Delegation

WHEREAS, *routine* written reports for medical procedures as listed (and marked by a dagger) in the Schedule of Maximum Allowances of the State of California impose an additional and unnecessary burden upon physicians undertaking such procedures; and

WHEREAS, requiring these routine reports is discriminatory against and impugns the integrity of internists, general practitioners and pediatricians who largely undertake these procedures; and

WHEREAS, such reports serve no useful purpose in the course of patient care; now, therefore, be it

Resolved: That written reports of medical procedures be requested only when actually needed for a specific and necessary purpose, that the purpose be noted in requests for reports, and that realistic fees be paid by the requesting agency for the time and effort required in the preparation of these reports.

ACTION: Referred to Council for implementation.

* * *

COMPONENT OFFICERS' MEETING

Resolution No. 46-64 **Committee 3A**

Introduced by: San Mateo County Delegation

WHEREAS, the California Medical Association annually pays about $40,000.00 for the meeting of the officers of the component societies; and

WHEREAS, the purpose of such a meeting is to instruct, inspire and share experiences; and

WHEREAS, the usual progressing of society officers is by orderly advance; and

WHEREAS, an annual meeting results, therefore, in duplication, waste and ennui; now, therefore, be it

Resolved: That the Council of the California Medical Association appoint a committee to study the optimum frequency of such meetings and the most effective format for the furtherance of the laudable objectives envisioned.

ACTION: Referred to Council.

* * *

STATE FEE SCHEDULE

Resolution No. 47-64 **Committee 3B**

Introduced by: Howard Lindsey

Representing: San Mateo County

ACTION: See Resolution No. 26-64.

* * *

DELETION OF SECTION 381(b) FROM TITLE 17, CALIFORNIA HOSPITAL CODE

Resolution No. 48-64 **Committee 3A**

Introduced by: Carl Goetsch

Representing: Alameda-Contra Costa Medical Association

Resolved: That the question of whether or not a husband will be admitted to the delivery room shall be decided by the attending physician in accordance with the rules of the hospital medical staff; and be it further

Resolved: That the California Medical Association ask the Department of Public Health, State of California, to delete Section 381(b) from Title 17, California Hospital Code, which now prevents the attending physician from using his discretion in this aspect of his medical practice.

ACTION: Adopted by House. Also adopted, a second resolution, reading:

RESOLVED: That this House of Delegates go on record as opposing the presence of fathers in delivery rooms.

* * *

MEDICAL SERVICES EDUCATIONAL PROGRAM

Resolution No. 49-64 **Committee 3B**

Introduced by: Alameda-Contra Costa Delegation

Resolved: That the California Medical Association Commission on Medical Services be urged to implement an insurance educational program which includes such considerations as insuring the complications of pregancy and the coverage of newborn from date of birth, as well as other medically known risks, currently not covered by most health insurance policies, and that this educational program is to be directed toward industry, labor and others involved in the mass purchase of health insurance.

ACTION: Referred to Council for implementation.

* * *

INSURANCE COVERAGE FROM DATE OF BIRTH

Resolution No. 50-64 **Committee CPS**

Introduced by: Alameda-Contra Costa Delegation

WHEREAS, the incidence of prematurity and medical complications of births is proportionately small, but individually quite costly, and thus can be an insurable risk in group health insurance policies; now, therefore, be it

Resolved: That California Physicans' Service continue in its present efforts to extend coverage to date of birth in new contracts and in renewal contracts.

ACTION: Adopted as amended, above.

* * *

REGARDING NEW USES OF CRIPPLED CHILDREN SERVICES

Resolution No. 51-64 **Committee 3B**

Introduced by: Alameda-Contra Costa Delegation

ACTION: Withdrawn by author.

* * *

STATE UNIFORM FEE SCHEDULE

Resolution No. 52-64 **Committee 3B**

Introduced by: Tenth District

ACTION: See Resolution No. 26-64.

LAY HEALTH CASE SCREENING PROGRAMS

Resolution No. 53-64 **Committee 3A**
Introduced by: Richard S. Wilbur
Representing: Santa Clara County

WHEREAS, each year in California, voluntary health groups are being formed for the purpose of combating various diseases; and

WHEREAS, many of these organizations plan and execute screening tests to find cases of the diseases concerned; and

WHEREAS, these programs are no longer confined to communicable diseases nor to the economically underprivileged; and

WHEREAS, these programs tend to fractionate the patient's health care, duplicate efforts, increase the expense of caring for our nation's health, give a false sense of security to persons screened and induce patients to delay physician diagnosis and treatment when these are needed; now, therefore, be it

Resolved: That the House of Delegates of the California Medical Association go on record as opposing the participation of lay health groups in programs other than promotion of research and the education of doctor and patient, except in the fields of communicable disease and/or the care of the economically underprivileged; and be it further

Resolved: That the CMA Committee on Community Health Services be directed to set reasonable standards for the activity of voluntary lay health organizations within the field of medicine.

ACTION: Referred to Council for study, together with Resolution No. 65-64.

* * *

UNWED MOTHERS

Resolution No. 54-64 **Committee 3A**
Introduced by: S. A. Skillicorn and L. F. Fox
Representing: Santa Clara County

WHEREAS, it is estimated that 2.5 million children in the United States under 18 years of age have been born out of wedlock (in 1960 alone there were 224,300 illegitimate births in the U.S.); and

WHEREAS, one of the more serious, urgent and practical problems concerning unwed mothers is their failure to obtain adequate medical care, with one-half receiving no medical care during the first six months of pregnancy and seventeen per cent receiving no care up to confinement; and

WHEREAS, the death rate of illegitimate births is twice as high as that of wedlock births; and

WHEREAS, the higher mortality rate and the increased incidence of prematurity amongst illegitimate births is directly related to the lack of prenatal care (there being 116 deaths per 1,000 babies born to unmarried mothers with *no* prenatal care as compared to 32 deaths per 1,000 babies born to unmarried mothers *with* prenatal care); and

WHEREAS, there is a surprising paucity of valid information concerning the pregestation factors of unwed mothers, indicating that there is great need for clinical research in the field of prevention of illegitimacy; and

WHEREAS, it seems logical that physicians, in the role of citizens as well as representatives of the medical profession, have an obligation to assist and stimulate communities in the exploration of the increasing problem of unwed mothers and illegitimacy; now, therefore, be it

Resolved: That the CMA through appropriate committees study the problem of unwed mothers to determine what role physicians might assume in community efforts to decrease the problem, and be it further

Resolved: That the California Delegation to the AMA be urged to present this subject matter to the AMA House of Delegates, with emphasis upon stimulation and encouraging national private organizations and foundations to support clinical research in the field of illegitimacy.

ACTION: Adopted by House.

* * *

LIBERTY AMENDMENT

Resolution No. 55-64 **Committee 3A**
Introduced by: S. A. Skillicorn and A. L. Kelly
Representing: Santa Clara County

ACTION: Not reported out by committee.

* * *

PERSONAL SOLICITATION AND ADVERTISING

Resolution No. 56-64 **Committee 3A**
Introduced by: S. A. Skillicorn and A. L. Kelly
Representing: Santa Clara County

ACTION: Not adopted by House.

* * *

OWNERSHIP OF PHARMACIES

Resolution No. 57-64 **Committee 3A**
Introduced by: Orange County Delegation

WHEREAS, the Holmes Bill (AB 2509-1963) was enacted by the 1963 session of the California State Legislators despite the protests of California physicians; and

WHEREAS, the Holmes Bill amended Section 654, added Section 4080.5 and Chapter 1303 to the Business and Professions Code, making it unlawful for physicians to either continue ownership or become owners of pharmacies that dispense prescription or nonprescription drugs and medicines; and

WHEREAS, such discriminatory legislation abridges the constitutional freedom of one particular segment of the people of California and is an invasion of the rights and privileges of an individual to conduct business in a free and competitive market; now, therefore, be it

Resolved: That the House of Delegates of the California Medical Association hereby instructs the California Medical Association to proceed immediately, with every facility and resource available, to have amended Section 654, new Section 4080.5 and Chapter 1303 of the Business and Professions Code repealed and/or declared unconstitutional.

ACTION: Adopted by House.

* * *

ANNUAL SESSION DATES

Resolution No. 58-64 **Committee 3A**

Introduced by: John Rumsey
Representing: San Diego County

WHEREAS, many of the Delegates have families which would like to be together when their school children are at home during Easter vacation; and

WHEREAS, scheduling the Annual Session of the CMA during this school vacation period disrupts activities ordinarily planned for this period of time; now, therefore, be it

Resolved: That the CMA shall in the future meet at a time which does not conflict with the Easter school vacation period.

ACTION: Adopted by House.

* * *

SPECIALTY CERTIFICATIONS

Resolution No. 59-64 **Committee 3A**

Introduced by: Harry E. Hill and Gordon T. Bowen
Representing: Los Angeles

WHEREAS, the specialist members of the Forty First component society of the California Medical Association have been deprived of their specialty certifications; and

WHEREAS, the act of becoming a member of the Forty First component society of the California Medical Association did not change a physician's ability; and

WHEREAS, it is just and proper that those members of the Forty First component society who previously held certificates of specialty competence from the American Osteopathic Association should continue to have this competence recognized; therefore be it

Resolved: That the Certification Review Committee of the California Medical Association be empowered to certify that it has examined and found to be in order specialty certificates previously issued by the American Osteopathic Association and/or the California Osteopathic Association to members of the Forty First component society.

ACTION: Adopted as amended, above. Original resolution combined with Resolution No. 74-64 in above.

* * *

DATE OF CMA ANNUAL SESSION

Resolution No. 60-64 **Committee 3A**

Introduced by: San Joaquin Delegation

ACTION: Not adopted by House.

* * *

REVIEW OF FEE COMPLAINTS AGAINST NONMEMBERS

Resolution No. 61-64 **Committee 3A**

Introduced by: Carl E. Anderson
Representing: The Council

WHEREAS, the medical profession has a responsibility to the public concerning matters of adjudicating and mediating complaints by members of the public concerning unreasonable medical fees or charges; and

WHEREAS, the public should be able to have such complaints reviewed by the official representatives of the profession whether the physician complained against is a member of the medical society or not; now, therefore, be it

Resolved: That those component medical societies which have not already done so, be requested to amend their bylaws in order to permit the regularly-established mediation review committee to consider complaints by the general public, insurance carriers and others, against nonmember physicians as well as member physicians.

ACTION: Adopted as amended, above.

* * *

INVOCATION AND PLEDGE

Resolution No. 62-64 **Committee 3A**

Introduced by: Richard F. Altman
Representing: Orange County

Resolved: That the CMA recognize the dignity of the pledge of allegiance to our flag and the effectiveness of an invocation and urge their use whenever appropriate.

ACTION: Adopted as amended, above.

* * *

CPS

Resolution No. 63-64 **Committee CPS**

Introduced by: J. B. Price
Representing: Orange County

ACTION: Not adopted by House.

* * *

DISCONTINUATION OF MULTIPLE SCHEDULES IN CPS STRUCTURE

Resolution No. 64-64 **Committee CPS**

Introduced by: Stanley A. Skillicorn
Representing: Santa Clara County

ACTION: Not adopted by House.

VOLUNTARY HEALTH AGENCIES

Resolution No. 65-64 **Committee 3A**

Introduced by: Tenth District

WHEREAS, each year in California new voluntary health agencies are formed and some existing agencies change their mission for the combating of disease; and

WHEREAS, some such agencies, without medical direction, guidance or advice, offer diagnostic and screening services which duplicate medically directed services available through established and recognized health agencies, local health departments, county hospitals and clinics; and

WHEREAS, voluntary agency funds spent on such duplicating and often ill-advised diagnostic and case finding activities could be better invested in the support of recognized research; now, therefore, be it

Resolved: That the CMA through its appropriate committee encourage voluntary health agencies to direct into recognized research programs those funds now being expended for screening and case-finding activities where such activities duplicate those services available through more medically reliable sources; and be it further

Resolved: That the CMA and county societies encourage and support the orderly development of medically directed case finding programs by those local programs; and be it further

Resolved: That the CMA continue to inform the public that the best disease detection program is periodic examination by a personal physician.

ACTION: Referred to Council for study, together with Resolution No. 53-64.

* * *

REGIONAL HOSPITAL PLANNING COUNCILS

Resolution No. 66-64 **Committee 3A**

Introduced by: Tenth District

WHEREAS, five Regional Hospital Planning Councils now exist in California, each recognized by the State Bureau of Hospitals as responsible regional planning groups for hospitals and related health facilities; and

WHEREAS, the recommendations of these councils are actively sought and closely followed by the Bureau of Hospitals; and

WHEREAS, some County Boards of Supervisors and City Councils have declared that the recommendations of regional hospital planning councils can have no legal status because such planning recommendations and activities are reserved for and exercised by the State Department of Public Health; and

WHEREAS, some Boards of Supervisors and City Councils have expressed the desirability of being able to legally designate their community's regional planning council to recommend criteria for the orderly and responsible development of hospitals and related facilities within the area of their jurisdicnow, therefore, be it

Resolved: That the California Medical Association strive for the passage of legislation to permit governing bodies of metropolitan areas to designate their Regional Hospital Planning Council responsible for developing criteria for the use of such governing bodies in assuring the orderly development of hospitals and related facilities in their political jurisdiction.

ACTION: Referred to Council for further consideration.

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RECRUITMENT BUREAU IN ALL ALLIED HEALTH FIELDS

Resolution No. 67-64 **Committee 3A**

Introduced by: Los Angeles Delegation

WHEREAS, there is a need to assure trained health-field professionals of sufficient quantity and quality to meet the health service needs of the people of the United States and its possessions; and

WHEREAS, it is necessary to educate and disseminate information of available opportunities to our science organizations in the high schools of America; now, therefore, be it

Resolved: That the California Medical Association encourage and assist the American Medical Association in the area of recruitment of medical and paramedical personnel.

ACTION: Substitute resolution, above, adopted by House.

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MINORITY GROUP MEMBERSHIP—AMA

Resolution No. 68-64 **Committee 3**

Introduced by: Los Angeles Delegation

ACTION: See Resolution No. 23-64.

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KERR-MILLS—IMPLEMENTATION

Resolution No. 69-64 **Committee 3B**

Introduced by: Los Angeles Delegation

ACTION: See Resolution No. 19-64.

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KERR-MILLS—PRIVATE INSURANCE

Resolution No. 70-64 **Committee 3B**

Introduced by: Los Angeles Delegation

ACTION: See Resolution No. 19-64.

KERR-MILLS DEFINITIONS

Resolution No. 71-64 **Committee 3B**

Introduced by: Los Angeles Delegation

ACTION: See Resolution No. 19-64.

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HEALTH INSURANCE—DEFINITION

Resolution No. 72-64 **Committee 3B**

Introduced by: Los Angeles Delegation

ACTION: Not adopted by House.

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RATTIGAN-BURTON ACT

Resolution No. 73-64 **Committee 3B**

Introduced by: Los Angeles Delegation

ACTION: See Resolution No. 19-64.

* * *

SPECIALTY VALIDATION

Resolution No. 74-64 **Committee 3A**

Introduced by: Los Angeles Delegation

ACTION: See Resolution No. 59-64.

* * *

QUALITY MEDICAL CARE

Resolution No. 75-64 **Committee 3B**

Introduced by: Los Angeles Delegation

WHEREAS, continuing public support for private medical practice demands some guarantee of quality medical care; and

WHEREAS, such a request for assurance is only reasonable; and

WHEREAS, only physicians themselves are capable of judging quality of medical practice; and

WHEREAS, it is logical that programs to provide guarantees of excellence of care be administered by recognized medical organizations, preferably at the local level; and

WHEREAS, the success of such physician-stimulated and administered programs has been demonstrated by the Joint Commission on Hospital Accreditation; and

WHEREAS, a special committee of CMA's Bureau of Research and Planning is currently studying the problem of quality medical care, but is as yet unable to report its recommendations to the House of Delegates; and

WHEREAS, there is growing support for legislation which will empower the State to supervise the quality of medical care; and

WHEREAS, such legislation is undesirable; now, therefore, be it

Resolved: That this House of Delegates form a special committee to study and develop now a concrete program designed to assure the quality of care dispensed by its members, with CMA direction and local society implementation.

ACTION: Referred to Council, for Bureau of Research and Planning.

* * *

CPS—MAJOR MEDICAL INSURANCE FEES

Resolution No. 76-64 **Committee CPS**

Introduced by: Los Angeles Delegation

ACTION: Not adopted by House.

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DEFINITION OF QUALITY OF MEDICAL CARE

Resolution No. 77-64 **Committee 3B**

Introduced by: Los Angeles Delegation

WHEREAS, a major concern of CMA is to maintain and enhance the highest possible standards of medical care for the people of California; and

WHEREAS, the actions of many third parties frequently threaten the quality of medical care that CMA members may be capable of providing for their patients; and

WHEREAS, in discussions relating to quality medical care, it is desirable that there be available definition of quality medical care and a delineation of those conditions necessary for its maintenance; now, therefore, be it

Resolved: That CMA House of Delegates adopts the following statement of definition and policy:

The physician's principal contributions to society are to conserve human life, to alleviate its sufferings and to enhance its usefulness. He is concerned with all aspects of human endeavor and environment which may affect the physical or mental health of the individual or the community. These contributions reflect both the honored traditions of his profession and the highest skills and knowledge attainable through continuous medical education, training, and experience. The use of this knowledge and these skills involves all of the facilities available in the community ordinary as well as medical, and is governed and modified by their presence and absence. The physician is uniquely qualified to appraise, to initiate, and to administer measures designed to safeguard and promote individual and community health. His professional preoccupation, however, should not preclude active participation in those personal and community affairs associated with faith and good citizenship, or in activities integral to the maintenance of a wholesome society.

QUALITY MEDICAL CARE

Medical care of the highest quality is the administration to the health care needs of the individual and the community that is most effective in the recognition, treatment, and prevention of disease, alleviation of suffering, and the restoration of useful life. It is attained under those conditions which enable a conscientious physician, by a mutually acceptable agreement, to employ his finest skills and judgment and the available knowledge and facilities in providing these medical needs.

CONDITIONS NECESSARY TO MAINTAIN AND ENHANCE THE QUALITY OF MEDICAL CARE

1. The physician must be competent and conscientious.

2. The patient and physician must have a common understanding of what constitutes quality medical care, mutual acceptance of its desirability, and a united effort to achieve it.

3. There must be freedom of choice without limitation for both patient and physician.

4. Responsibility for the care of the patient must rest solely with the physician.

5. The physician and his organizations should set and control the standards and all ancillary aspects of medical care.

6. The physician must be free of controls and restrictions that interfere with his providing for the medical needs of his patient.

7. The necessary ancillary facilities and consultation should be available.

8. The highest standards of medical school and postgraduate education must be maintained including programs readily available and oriented to the needs of the practicing physician.

9. Intellectual, emotional, and financial consideration must be preserved as a combination of motivating factors which attract qualified youth to the practice of medicine and encourage the continued education of the practicing physician.

10. It is proper that a physician be rewarded financially for his efforts and necessary that the patient be primarily responsible for the costs of his medical care under a mutually acceptable contract, which, when practicable, should be by prior agreement. This responsibility of the patient to the physician is his recognition of the importance of the service received, the relationship existing with the physician and is a concrete force in establishing and maintaining this relationship without which the highest quality of medical care cannot exist.

Recognizing our responsibility and being primarily concerned with the health and welfare of the patient and of the community, we, the physicians of the California Medical Association, hold that these conditions and standards must be maintained without compromise to preserve and continually improve the quality of medical care available to the citizens of this State. To safeguard and protect these principles, we pledge our united efforts.

ACTION: Referred to Council, for Bureau of Research and Planning.

* * *

VETERINARY MEDICINE

Resolution No. 78-64 **Committee 3A**

Introduced by: Los Angeles Delegation

WHEREAS, Southern California is without a center for research in comparative anatomy and physiology or the diseases of animals and their relationship to man; and

WHEREAS, there is a major need for facilities for research with large animals, particularly in the field of cardiovascular surgery; and

WHEREAS, human health will be improved by study of the physiology and diseases of animals; now, therefore be it

Resolved: That the California Medical Association approves and endorses the establishment of a school of veterinary medicine in Southern California.

ACTION: Substitute resolution, above, adopted by House.

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MEDICAL LIBRARIES

Resolution No. 79-64 **Committee 3A**

Introduced by: Los Angeles Delegation

WHEREAS, the medical library contributes directly to the health and welfare of the public; and

WHEREAS, taxation detracts from the contributions, which the library can make to the welfare of the public; and

WHEREAS, such detractions from the health and welfare of the public is contrary to the public interest; now, therefore, be it

Resolved: That the Council and the Legislative Committee be requested to take all possible action to amend the law, to declare that medical libraries open to all members of the profession are public libraries and exempt from taxation.

ACTION: Adopted by House.

* * *

ROYBAL BILL RE LABORATORY ANIMALS

Resolution No. 80-64 **Committee 3A**

Introduced by: Los Angeles Delegation

WHEREAS, several bills have been introduced into Congress which in the name of protecting laboratory animals, would place a severe restriction upon the conduct of research; and

WHEREAS, the Roybal Bill is constructive legislation which would improve facilities for the housing of laboratory animals and ensure their welfare, and stimulate research on the care and diseases of laboratory animals, and improve the distribution of such knowledge; and

Whereas, such constructive legislation demonstrates the interest of the scientific world in the welfare of laboratory animals; and

Whereas, such legislation is the best answer to the cries of the humaniacs for restrictive legislation; now, therefore, be it

Resolved: That the Officers be requested to inform all California Legislators that if legislation is needed in this field, the Roybal Bill will best serve the interests of laboratory animals; and

That the Delegates to the AMA be requested to urge the AMA to take similar action.

ACTION: Referred to Council.

* * *

HEALTH EXPENSE DEDUCTIONS

Resolution No. 81-64 **Committee 3A**

Introduced by: Los Angeles Delegation

Whereas, the deductions for health expenses in California are different from federal deductions; and

Whereas, the difference causes a great deal of inconvenience in the completion of the California income tax form; and

Whereas, this variation produces no significant increase in income to the State of California; now, therefore, be it

Resolved: That the Council and Legislative Committee be requested to initiate legislation which would make deductions for health expenses in California income tax, the same as for the federal income tax.

ACTION: Adopted by House.

* * *

DEATH CERTIFICATE—AMENDED DIAGNOSIS

Resolution No. 82-64 **Committee 3A**

Introduced by: Los Angeles Delegation

Whereas, the physician is required to complete a death certificate shortly after the death of his patient; and

Whereas, the microscopic work for the autopsy is frequently not available until sometime after the death certificate is completed; and

Whereas, the microscopic work may indicate that the diagnosis on the death certificate is in error; and

Whereas, under section 10400 of the Health and Safety Code, in order to enter the correct diagnosis, the physician is required to complete a complicated form, have his statement endorsed by a notary and obtain a statement from two supporting witnesses which also must be notarized; and

Whereas, the right of the physician to correct a diagnosis should be the same as his right to enter the diagnosis; now, therefore, be it

Resolved: That the Council and the Legislative Committee be requested to take the necessary steps to change the law in order to allow the physician to correct the diagnosis on a death certificate in a simple manner.

ACTION: Adopted by House.

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DEFINITION—PRE-EXISTING DISEASE

Resolution No. 83-64 **Committee 3B**

Introduced by: Richard L. Taw

Representing: Los Angeles

ACTION: Not adopted by House.

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REHABILITATION

Resolution No. 84-64 **Committee 3A**

Introduced by: Packard Thurber, Jr.

Representing: Scientific Board

Whereas, rehabilitation techniques are widely accepted as a necessary adjunct to returning the disabled to the best possible state of health; and

Whereas, it is recognized that rehabilitation belongs in community hospitals where the disabled are treated; and

Whereas, the personal physician is the key person in the successful rehabilitation team, but presently is not fully fulfilling this role; now, therefore, be it

Resolved: That the California Medical Association take a leadership role in counseling with the California Hospital Association and California State Agencies involved in rehabilitation to encourage the development of rehabilitation facilities in community hospitals; and be it further

Resolved: That this leadership role be manifested in an educational program for the physician members of the California Medical Association to better inform them concerning their responsibility in the rehabilitation of their patients.

ACTION: Adopted by House.

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LEGISLATION RE DISASTER EVACUATIONS

Resolution No. 85-64 **Committee 3A**

Introduced by: Donald E. Barker

Representing: Los Angeles

ACTION: Not reported out by committee.

PROCEDURAL IMPROVEMENTS IN THE BOARD OF MEDICAL EXAMINERS OF CALIFORNIA

Resolution No. 86-64 **Committee 3**

Introduced by: Theodore H. Goldman

Representing: Los Angeles

ACTION: See Resolution No. 7-64.

* * *

KERR-MILLS IMPLEMENTATION

Resolution No. 87-64 **Committee 3B**

Introduced by: Harry Hill

Representing: Los Angeles

ACTION: See Resolution No. 19-64.

* * *

CMA LIBRARY FUNDS

Resolution No. 88-64 **Committee 3A**

Introduced by: Alameda-Contra Costa Delegation

WHEREAS, this House of Delegates has for the past two years approved budgets prepared by the Council and its Finance Committee; and

WHEREAS, these budgets have omitted contributions to medical society or medical school libraries; and

WHEREAS, such contributions were originally included in CMA budgets some years ago as a means of making library service available to physicians in remote areas; and

WHEREAS, such a position of remoteness no longer obtains but has been supplanted to large extent by the availability of library reference services supplied at moderate cost by medical school libraries; and

WHEREAS, the Council has overridden the House of Delegates and restored a portion of such library contributions in the case of at least one library; now, therefore be it

Resolved: That any medical library receiving funds from California Medical Association for the provision of packet or other library service to physicians outside the library's immediate area be required to include in each packet or container of material so furnished a note showing that the service is provided through funds supplied by California Medical Association.

ACTION: Adopted as amended, above.

* * *

LEGAL BLOOD ALCOHOL LEVEL

Resolution No. 89-64 **Committee 3A**

Introduced by: Alameda-Contra Costa Delegation

ACTION: Not adopted by House.

DANGERS OF MIXING ALCOHOL AND TRANQUILIZERS

Resolution No. 90-64 **Committee 3A**

Introduced by: Alameda-Contra Costa Delegation

Resolved: That the California Medical Association increase its professional educational activities, on the hazards of simultaneous ingestion of alcohol and tranquilizers, barbiturates, or antihistamines.

ACTION: Adopted as amended, above.

* * *

CONTROL OF LSD-25

Resolution No. 91-64 **Committee 3A**

Introduced by: Alameda-Contra Costa Delegation

ACTION: Not adopted by House.

* * *

PHYSICAL EXAMINATION OF TEACHER CANDIDATES

Resolution No. 92-64 **Committee 3**

Introduced by: Carl E. Anderson

Representing: The Council

WHEREAS, we recognize that health and safety of school children of California must be protected by the employment of teachers who are physically and emotionally fit to teach; and

WHEREAS, the present practice requires, as a prerequisite for professional certification to teach in California, that all teacher candidates, for any of the types of credential, be required to take and pass a "uniform" physical examination which must be reported to the State Department of Education on their form; and

WHEREAS, there is a question as to the medical wisdom and validity of the present practice; now, therefore, be it

Resolved: That the CMA urge the State Department of Education to review the structure of its present requirements for medical examination for teachers being certificated for employment in this state; and be it further

Resolved: That the State Department of Education be asked to consider substituting a structure that would foster and develop more local school district control with only necessary or appropriate state level recommendations or requirements and with provision for more appropriate and effective utilization of local medical assistance; and be it further

Resolved: That the CMA offer assistance to the State Department of Education in the formulation of the medical aspects of any revised or substitute structure.

ACTION: Referred to Committee on School Health for implementation.

of laboratory animals and ensure their welfare, and stimulate research on the care and diseases of laboratory animals, and improve the distribution of such knowledge; and

WHEREAS, such constructive legislation demonstrates the interest of the scientific world in the welfare of laboratory animals; and

WHEREAS, such legislation is the best answer to the cries of the humaniacs for restrictive legislation; now, therefore, be it

Resolved: That the Officers be requested to inform all California Legislators that if legislation is needed in this field, the Roybal Bill will best serve the interests of laboratory animals; and

That the Delegates to the AMA be requested to urge the AMA to take similar action.

ACTION: Referred to Council.

* * *

HEALTH EXPENSE DEDUCTIONS

Resolution No. 81-64 **Committee 3A**

Introduced by: Los Angeles Delegation

WHEREAS, the deductions for health expenses in California are different from federal deductions; and

WHEREAS, the difference causes a great deal of inconvenience in the completion of the California income tax form; and

WHEREAS, this variation produces no significant increase in income to the State of California; now, therefore, be it

Resolved: That the Council and Legislative Committee be requested to initiate legislation which would make deductions for health expenses in California income tax, the same as for the federal income tax.

ACTION: Adopted by House.

* * *

DEATH CERTIFICATE—AMENDED DIAGNOSIS

Resolution No. 82-64 **Committee 3A**

Introduced by: Los Angeles Delegation

WHEREAS, the physician is required to complete a death certificate shortly after the death of his patient; and

WHEREAS, the microscopic work for the autopsy is frequently not available until sometime after the death certificate is completed; and

WHEREAS, the microscopic work may indicate that the diagnosis on the death certificate is in error; and

WHEREAS, under section 10400 of the Health and Safety Code, in order to enter the correct diagnosis, the physician is required to complete a complicated form, have his statement endorsed by a notary and obtain a statement from two supporting witnesses which also must be notarized; and

WHEREAS, the right of the physician to correct a diagnosis should be the same as his right to enter the diagnosis; now, therefore, be it

Resolved: That the Council and the Legislative Committee be requested to take the necessary steps to change the law in order to allow the physician to correct the diagnosis on a death certificate in a simple manner.

ACTION: Adopted by House.

* * *

DEFINITION—PRE-EXISTING DISEASE

Resolution No. 83-64 **Committee 3B**

Introduced by: Richard L. Taw
Representing: Los Angeles

ACTION: Not adopted by House.

* * *

REHABILITATION

Resolution No. 84-64 **Committee 3A**

Introduced by: Packard Thurber, Jr.
Representing: Scientific Board

WHEREAS, rehabilitation techniques are widely accepted as a necessary adjunct to returning the disabled to the best possible state of health; and

WHEREAS, it is recognized that rehabilitation belongs in community hospitals where the disabled are treated; and

WHEREAS, the personal physician is the key person in the successful rehabilitation team, but presently is not fully fulfilling this role; now, therefore, be it

Resolved: That the California Medical Association take a leadership role in counseling with the California Hospital Association and California State Agencies involved in rehabilitation to encourage the development of rehabilitation facilities in community hospitals; and be it further

Resolved: That this leadership role be manifested in an educational program for the physician members of the California Medical Association to better inform them concerning their responsibility in the rehabilitation of their patients.

ACTION: Adopted by House.

* * *

LEGISLATION RE DISASTER EVACUATIONS

Resolution No. 85-64 **Committee 3A**

Introduced by: Donald E. Barker
Representing: Los Angeles

ACTION: Not reported out by committee.

PROCEDURAL IMPROVEMENTS IN THE BOARD OF MEDICAL EXAMINERS OF CALIFORNIA

Resolution No. 86-64 **Committee 3**

Introduced by: Theodore H. Goldman
Representing: Los Angeles

ACTION: See Resolution No. 7-64.

✓ ✓ ✓

KERR-MILLS IMPLEMENTATION

Resolution No. 87-64 **Committee 3B**

Introduced by: Harry Hill
Representing: Los Angeles

ACTION: See Resolution No. 19-64.

✓ ✓ ✓

CMA LIBRARY FUNDS

Resolution No. 88-64 **Committee 3A**

Introduced by: Alameda-Contra Costa Delegation

WHEREAS, this House of Delegates has for the past two years approved budgets prepared by the Council and its Finance Committee; and

WHEREAS, these budgets have omitted contributions to medical society or medical school libraries; and

WHEREAS, such contributions were originally included in CMA budgets some years ago as a means of making library service available to physicians in remote areas; and

WHEREAS, such a position of remoteness no longer obtains but has been supplanted to large extent by the availability of library reference services supplied at moderate cost by medical school libraries; and

WHEREAS, the Council has overridden the House of Delegates and restored a portion of such library contributions in the case of at least one library; now, therefore be it

Resolved: That any medical library receiving funds from California Medical Association for the provision of packet or other library service to physicians outside the library's immediate area be required to include in each packet or container of material so furnished a note showing that the service is provided through funds supplied by California Medical Association.

ACTION: Adopted as amended, above.

✓ ✓ ✓

LEGAL BLOOD ALCOHOL LEVEL

Resolution No. 89-64 **Committee 3A**

Introduced by: Alameda-Contra Costa Delegation

ACTION: Not adopted by House.

DANGERS OF MIXING ALCOHOL AND TRANQUILIZERS

Resolution No. 90-64 **Committee 3A**

Introduced by: Alameda-Contra Costa Delegation

Resolved: That the California Medical Association increase its professional educational activities, on the hazards of simultaneous ingestion of alcohol and tranquilizers, barbiturates, or antihistamines.

ACTION: Adopted as amended, above.

✓ ✓ ✓

CONTROL OF LSD-25

Resolution No. 91-64 **Committee 3A**

Introduced by: Alameda-Contra Costa Delegation

ACTION: Not adopted by House.

✓ ✓ ✓

PHYSICAL EXAMINATION OF TEACHER CANDIDATES

Resolution No. 92-64 **Committee 3**

Introduced by: Carl E. Anderson
Representing: The Council

WHEREAS, we recognize that health and safety of school children of California must be protected by the employment of teachers who are physically and emotionally fit to teach; and

WHEREAS, the present practice requires, as a prerequisite for professional certification to teach in California, that all teacher candidates, for any of the types of credential, be required to take and pass a "uniform" physical examination which must be reported to the State Department of Education on their form; and

WHEREAS, there is a question as to the medical wisdom and validity of the present practice; now, therefore, be it

Resolved: That the CMA urge the State Department of Education to review the structure of its present requirements for medical examination for teachers being certificated for employment in this state; and be it further

Resolved: That the State Department of Education be asked to consider substituting a structure that would foster and develop more local school district control with only necessary or appropriate state level recommendations or requirements and with provision for more appropriate and effective utilization of local medical assistance; and be it further

Resolved: That the CMA offer assistance to the State Department of Education in the formulation of the medical aspects of any revised or substitute structure.

ACTION: Referred to Committee on School Health for implementation.

LABELING OF CIGARETTE PACKAGES

Resolution No. 93-64 **Committee 3**

Introduced by: Lewis T. Bullock
Representing: Los Angeles County

WHEREAS, the CMA recognizes that available scientific evidence indicates that cigarette smoking is harmful to health; and

WHEREAS, the medical profession has an obligation to support all measures whereby such information may be transmitted to the public; and

WHEREAS, the AMA in its recommendations to the Fair Trade Commission (as of February 28, 1964) has indicated its desire "to be instrumental in obtaining many of the facts which are necessary to an intelligent and useful understanding of this subject;" and

WHEREAS, this position of AMA has been misinterpreted by the public and the press; and

WHEREAS, legislative or statutory regulations concerning the sale of cigarettes (such as labeling) are not the proper province of CMA or AMA; now, therefore, be it

Resolved: That CMA joins AMA in its enthusiastic support of all reasonable educational mechanisms which will most forcefully direct the general public's attention to the hazards of cigarette smoking, but suggests that the AMA restate its position in more positive terms; and be it further

Resolved: That CMA supports AMA request that thorough consideration of all necessary regulations of cigarette packaging, labeling and sales be undertaken by an appropriate legislative body such as the Congress of the United States.

ACTION: Substitute resolution, above, adopted by House.

* * *

COUNTY-CPS COORDINATING COMMITTEES

Resolution No. 94-64 **Committee CPS**

Introduced by: Carl E. Anderson
Representing: The Council

WHEREAS, the Board of Trustees of California Physicians' Service feels that Resolution No. 51 of 1962, has resulted in mutual satisfaction and increased understanding to both California Physicians' Service and to the county medical societies; now, therefore, be it

Resolved: That the House of Delegates of the California Medical Association expand the area of understanding between California Physicians' Service and the component medical societies by requesting county medical societies to either elect (or appoint at their discretion) County-CPS Coordinating Committees to consult with the Medical Policy Committee of the Board of Trustees of California Physicians' Service on matters pertaining to CPS activities and policy in their respective areas.

ACTION: Adopted by House.

* * *

FAIR HOSPITAL PRACTICES

Resolution No. 95-64 **Committee 3**

Introduced by: A. Justin Williams
Representing: San Francisco

WHEREAS, at the present time bylaws and regulations governing hospitals do not contain sufficient provision for the protection of doctors from arbitrary action affecting staff memberships; and

WHEREAS, in the case of a doctor's dismissal from staff, by nonappointment or otherwise, hospital regulations do not provide for: (1) advising a doctor that his dismissal is being considered, and informing him of the reasons and/or charges against him; (2) an investigation of any charges forming the basis of dismissal; (3) giving such doctor an opportunity to be heard and to answer any charges; (4) giving such doctor, after summary dismissal, a right to appeal, or to any protection other than recourse to law; and

WHEREAS, the unregulated power of hospitals over staff privileges inhibits doctors in the free expression of political opinion; and

WHEREAS, this state of affairs has been an increasing cause of unfavorable publicity, lowering public respect for the medical profession; and

WHEREAS, there is a need for legislation to require that hospitals have reasonable regulations for the protection of doctors from arbitrary and discriminatory action with respect to staff membership and staff privileges; and

WHEREAS, a Bill was introduced by Hon. Nicholas C. Petris in the 1963 General Session of the California Legislature for the enactment of a Fair Hospital Practices Act to remedy the above evils; and

WHEREAS, this Bill, Assembly Bill No. 2031, has been referred for interim study to the Assembly Interim Committee on Public Health, Hon. Byron Rumford, chairman, and its Subcommittee on Institutions and Public Health Services, Hon. Burt Henson, Chairman; now, therefore, be it

Resolved: That the California Medical Association endorse and actively support the passage of Assembly Bill No. 2031, or a similar Fair Hospital Practices Act; and be it further

Resolved: That copies of this resolution be sent to the Governor of the State of California, to all members of the California Legislature, to the press and other news media, and to all members of the California Medical Association.

ACTION: Referred to Council.

VOTE ON COUNCIL

Resolution No. 96-64 **Committee 3**

Introduced by: Carl E. Anderson
Representing: The Council

WHEREAS, the House of Delegates has approved the formation of the Scientific Board; and

WHEREAS, the structure of this board provides for one member selected by the board to sit with the Council, but without a vote; and

WHEREAS, it appears to the Council that this representative of the scientific side of the Association should be seated as a member of the Council with full powers; now, therefore, be it

Resolved: That an ad hoc committee of this House be appointed to study the advisability of amending the Constitution to permit the Scientific Board representative on the Council to vote on this body and that this committee be advised that the Council itself is in favor of providing this voting power.

ACTION: Adopted by House.

AMENDMENTS TO CONSTITUTION AND BYLAWS

Amendments to the Constitution and Bylaws may be introduced at either meeting of the House of Delegates in any annual session. Bylaw amendments may be voted upon following a lapse of 24 hours, while constitutional amendments are required to lie on the table until the next regular session of the House of Delegates.

Under these procedures the reference committee in the 1964 House of Delegates was called upon to report on five constitutional amendments introduced in 1963 and to report on 13 bylaw amendments offered in 1964.

With action by the House of Delegates on the report of Reference Committee No. 4, all proposals were acted upon. Three new constitutional amendments were introduced at the second meeting of the House of Delegates for action in 1965.

ACTIONS

All amendments to the Constitution and Bylaws require a two-thirds affirmative vote. Listed below are those amendments which achieved this vote and became official actions and thus a part of the Constitution and Bylaws of the Association.

CONSTITUTIONAL AMENDMENTS

CONSTITUTIONAL AMENDMENT No. 3-63

Resolved: That Article III, Part B, Section 11—Election of Councilors, be amended to read hereafter as follows: (New language shown in italics.)

District councilors shall be elected by vote of the delegates from each district, in the manner and at the time specified in the bylaws; provided, however, *that in those councilor districts wholly contained within the boundaries of one Component Medical Society, district councilors may be elected by the vote of the members entitled to vote from such councilor or sub-councilor district, if the district be divided, in the manner and at the time specified in the bylaws; subject, however,* that at the first meeting of the House of Delegates, after a district councilor has been *elected,* his name shall be submitted to the House, by the delegates from the district and (1) if there is no challenge by any delegate, then the speaker shall declare his election completed, and (2) if any delegate shall challenge the election on any ground, including fitness of the councilor to serve as a district councilor, the questions presented by the challenge, shall be submitted to a Qualifications Committee, consisting of the president, president-elect, and one delegate appointed by the speaker, from the councilor district or *sub-district* involved. The Qualifications Committee shall consider all grounds upon which the *councilor* is challenged, and report back to the House. If the committee reports in favor of confirming the *councilor's* election, the speaker shall declare him elected. If the committee reports against confirming the *councilor's* election, a three-fourths affirmative vote shall be necessary to sustain the report of the committee, in which event, the *councilor* shall be ineligible to serve as *a* district councilor, and the delegates *or members* from the district *or sub-district* shall immediately proceed to the *election* of another *councilor* for the vacant office. If an adverse report of the Qualifications Committee is not sustained, then the *councilor* shall be declared elected by the speaker.

* * *

CONSTITUTIONAL AMENDMENT No. 4-63

Resolved: That Article III, Part B, Section 10 of the California Medical Association Constitution, wherein, it refers to District Number Three, be amended to read hereafter as follows: (New language shown in italics.)

District Number Three, comprising the County of Los Angeles. *The members of District Number Three may, by a vote of the members entitled to vote, elect to divide District Number Three into the same number of sub-councilor districts as there are councilors. If the district is so divided, a councilor shall be elected by and represent the members of each sub-councilor district.*

BYLAW AMENDMENTS

BYLAW AMENDMENT NO. 1-64

Resolved: That Chapter X, Section 3(b) of the Bylaws be amended to include associate members, so that (b) reads: (New language in italics.)

Those active *and associate members* who have reached the age of seventy years and who have been active members in good standing of this Association for a period of at least twenty years, and who have been certified to the Association by their respective component societies to have limited their practices due to advanced age or physical disability, may be excused from the payment of annual dues.

* * *

BYLAW AMENDMENT NO. 2-64

Resolved: That the third paragraph of Chapter XI, Section 1, entitled "Scientific Journal" be amended to read: (New language in italics.)

Nominations for appointments to the Editorial Board shall be made by the Committee on *California Medicine of the Scientific Board* after consultation with the Editor and with the chairman of the Scientific Section for the special field of interest where a nomination is required.

* * *

BYLAW AMENDMENT NO. 3-64

Resolved: That Chapter VII, Section 1(a) 3 of the Bylaws be amended by deleting the present wording and substituting the following:

Committee on Government Medical Care Programs.

* * *

BYLAW AMENDMENT NO. 4-64

Resolved: That Chapter VII, Section 1, paragraph (a) 2 be amended by deleting the language shown here in parentheses and substituting the language shown here in italics:

2. Committee on Health Care of the (Aged) *Aging.*

* * *

BYLAW AMENDMENT NO. 5-64

Resolved: That Chapter VII, Section 1, paragraph (a) 4 be amended by deleting the language shown here in parentheses and substituting the language shown here in underlining: (Note: The underlining had the effect of putting a period after the word Mediation.)

4. Committee on Mediation. (and Medical Care Insurance.)

* * *

BYLAW AMENDMENT NO. 6-64

Resolved: That Chapter VIII, Section 6.5 of the California Medical Association Bylaws, be amended to read as follows: (New language in italics.)

SECTION 6.5—Election of District Councilors in Districts Having More Than One Councilor.

District councilor officers are divided into Offices No. 1, No. 2, et seq. with Offices No. 1, 4 and succeeding increments of three carrying an initial term of one year and thereafter terms of three years; with Offices Nos. 2, 5 and succeeding increments of three carrying initial terms of two years and thereafter terms of three years; and with Offices Nos. 3, 6 and succeeding increments of three carrying initial terms of three years and thereafter terms of three years. Where new offices are created under the terms of Article III, Part B, Section 9(a) of the Constitution, each such new office shall be numbered serially with those already existing and shall carry an initial term extending to the same date as has previously been established for offices in the same numerical sequence, thereafter a term of three years.

In succeeding years after the adoption of this section, in those councilor districts wholly contained within the boundaries of one component medical society, district councilors may be elected either: a) By direct vote of members, or b) By vote of the delegates in caucus during Annual Session.

(a) Direct Election of District Councilor by Vote of the Members. A component society may provide in its bylaws for the creation of councilor or sub-councilor districts and for the direct election of councilors by the majority vote of the membership eligible to vote and voting. Elections to fill an existing vacancy or one about to occur, shall be held at the same time and in the same manner as the

election of delegates and alternates to the House of Delegates and shall be by secret ballot.

The chairman of the district delegation shall report at the second meeting of the House of Delegates, the results of the election, and when such report is made, the member or members elected shall assume office as a district councilor subject to the provisions of the Constitution and Bylaws.

(b) Election of District Councilors by Vote of the Delegates in Caucus During Annual Session. In all councilor districts which have not adopted the direct member vote method at least twenty-four (24) hours prior to the second meeting at each Annual Session of the House of Delegates, the delegates from those districts in which more than one councilor vacancy exists or is about to occur, shall separately meet and the delegates shall elect a chairman and secretary. The time and place of the caucus of each such district delegation shall, in the absence of unanimous written consent of the delegates of the district fixing time and place, be fixed by the speaker and announced at the first meeting of the House of Delegates at each Annual Session.

Nominations shall then be received for each individually numbered office in which a vacancy exists, and in each instance where there is more than one nomination, election shall be by secret ballot and majority vote of the delegates present and voting. The chairman of the district delegation shall then report to the House of Delegates the results of the election, and when such report is made, the members elected shall thereupon assume office as district councilors, subject to the provisions of the Constitution and Bylaws.

In the event there are more than two nominees at any district caucus for any of the individually numbered offices of district councilor in said district and none of such nominees receives a majority of the votes cast on the first ballot, the nominee receiving the smallest number of votes on such ballot shall be eliminated and a second ballot shall be taken on the remaining nominees, such process to continue until one such nominee shall receive a majority of the votes cast.

* * *

BYLAW AMENDMENT NO. 7-64

Resolved: That Section 3, Chapter XIII of the Bylaws of the California Medical Association be amended to read as follows:

SECTION 3 — Oath of Office

All officers and employees of the Association upon election or appointment shall subscribe to an oath or affirmation as follows: "I hereby declare that I support the Constitution and the Government of the United States of America and the Constitution and Bylaws of the California Medical Association."

* * *

BYLAW AMENDMENT NO. 13-64

Resolved: That Section 1, paragraphs (1) and (2)(c) and (d) of Chapter III, be amended. The last sentence in paragraph (1) of Section 1 shall be amended as shown in italics and read as follows:

Charges must be filed with the secretary of the accused member's component society *and he may, as soon as possible, present them to the governing board of the society for information and review. The charges shall then be sent to the chairman or secretary of the Judicial Council. These charges shall be received by the chairman or secretary of the Judicial Council within sixty (60) after they are filed with the secretary of the society. The governing board of a component society which requests the California Medical Association to appoint a District Judicial Council to hear a formal charge, shall place such request in the mail to the councilor or councilors representing the district in which the component society is located, within sixty (60) days after the charges are filed.*

Paragraphs (2)(c) and (d) of Section 1, shall be deleted and in their stead, a new paragraph (c) shall be inserted:

(c) Each Judicial Council, including a District Judicial Council appointed by the California Medical Association, shall select its own chairman and secretary and meetings shall be held at the call of the chairman on at least forty-eight (48) hours' notice: provided that the Judicial Council must meet not more than thirty (30) days after receipt by the chairman or secretary of written charges against any member of the society, and consider the charges as presented, and in its discretion, determine whether or not further proceedings shall be conducted. The final decision of the Judicial Council must be made within sixty (60) days after the receipt of charges by it. If the Judicial Council determines that no further action be taken, the charges shall be dismissed.

BYLAW AMENDMENT 10-64

This amendment proposed a changed mathematical formula for calculating the number of Delegates to which each component society is entitled. The proposed amendment was not approved but the House of Delegates did approve the reference committee's recommendation that the Council appoint a committee to "study the matter of equitable representation" and report its recommendations to the next meeting of the House.

1964 CONSTITUTIONAL AMENDMENTS FOR ACTION IN 1965

Three amendments to the Constitution were introduced at the final meeting of the 1964 House of Delegates. These are required to lie upon the table until the next regular meeting of the House of Delegates; meanwhile, they must be published in at least two issues of CALIFORNIA MEDICINE. They will be considered by the appropriate reference committee of the House of Delegates and then will be reported to the members of the House in the 1965 Session.

CONSTITUTIONAL AMENDMENT NO. 1-64

Subject: Composition of Council—Article III,
Part B, Section 9(b)
Introduced by: Carl E. Anderson
Representing: The Council

Resolved: That Article III, Part B, Section 9, paragraph (b) be amended by adding the words shown in italics so that the paragraph shall read as follows:

(b) The president, president-elect, *immediate past president,* speaker and vice-speaker.

* * *

CONSTITUTIONAL AMENDMENT NO. 2-64

Subject: Composition of Council—Article III,
Part B, Section 9(a)
Introduced by: Chester Herrod, M.D.
Representing: San Francisco

WHEREAS, the present size of the Council is consistent with efficiency, and

WHEREAS, an increase in size may diminish the efficiency of the Council, and

WHEREAS, the number of doctors in California will inevitably increase and thereby increase the size of the Council, and

WHEREAS, a change in the numerical basis for councilor selection is the simplest method of retaining the present size of the Council; now, therefore be it

Resolved: That Article III, Part B, Section 9(a), be amended to read: (New language in italics)

"Each councilor *or subcouncilor* district, as specified in this Constitution, shall be entitled to one councilor for each *sixteen hundred (1600)* active members, or *minor* fraction thereof, according to its membership as of the first day of September of the preceding year; provided that each councilor *or subcouncilor* district shall be entiled to a minimum of one councilor."

* * *

CONSTITUTIONAL AMENDMENT NO. 3-64

Subject: Councilor Districts—Article III,
Part B, Section 10
Introduced by: Chester Herrod, M.D.
Representing: San Francisco

WHEREAS, the increasing number of doctors in some counties in California has altered the equilibrium which previously existed in councilor districts, and

WHEREAS, since crowded highways makes attendance from a distance at councilor district caucuses increasingly difficult, and

WHEREAS, the need to redefine councilor districts to recognize population changes and for convenience of delegates is apparent; now, therefore be it

Resolved: That Article III, Part B, Section 10, of the Constitution be amended to read as follows: (New language in italics)

"There are *fourteen (14)* districts as follows:

"District Number One, comprising San Diego County.

"District Number Two, comprising *Orange County.*

"District Number Three, comprising the County of Los Angeles.

"District Number Four, comprising *Imperial, Riverside, San Bernardino, Inyo and Mono Counties.*

"District Number Five, comprising *Ventura and Santa Barbara Counties.*

"District Number Six, comprising *Kern, Kings, Tulare, Fresno, Madera, Merced, Stanislaus and San Joaquin Counties.*

"District Number Seven, comprising *San Luis Obispo, San Benito, Monterey and Santa Cruz counties.*

"District Number Eight, comprising *Santa Clara and San Mateo counties.*

"District Number Nine, comprising *the County of San Francisco.*

"District Number Ten, comprising *Alameda and Contra Costa Counties.*

"District Number Eleven, comprising *Marin, Solano, Napa, Lake, Mendocino, Humboldt and Del Norte counties.*

"District Number Twelve, comprising *the County of Sacramento.*

"District Number Thirteen, comprising *Amador, Alpine, El Dorado, Placer, Nevada, Sierra, Yuba, Colusa, Sutter, Yolo, Glenn, Butte, Tehama, Trinity, Shasta, Lassen, Plumas, Modoc and Siskiyou counties.*

"District *Number Fourteen,* consisting of any society which is not limited as to geographical area, or the area of which overlaps the area covered by any one or more existing component societies; such society and its members shall not be considered to be members of any other councilor district."

Council Meeting Minutes

Tentative Draft: Minutes of the 501st Meeting of the Council San Francisco, Thunderbird Inn, May 2, 1964.

The meeting was called to order by Chairman Anderson in honor of the late Mrs. Ivan C. Heron in the Thunderbird Inn, San Francisco International Airport, on Saturday, May 2, 1964, at 9:30 a.m.

Roll Call

Present were President Doyle, President-Elect Teall, Speaker Quinn, Vice-Speaker Telford, Secretary Hosmer, Editor D. L. Wilbur and Councilors MacLaggan, Wilson, Todd, Gooel, Taw, Bullock, O'Connor, Ham, Rogers, Maguire, Murray, R. S. Wilbur, Miller, Watts, Fenlon, Kay, Anderson, Grunigen, Cosentino and Shaw. Absent for cause, Councilor Kaiser.

A quorum present and acting.

Present by invitation were Messrs. Hunton, Thomas, Clancy, Collins, Whelan, Klutch, Clark, Tobitt, and Edwards, Doctor Miller and Mrs. Griffith of CMA staff; Messrs. Hassard and Huber, legal counsel; Messrs. Read, Salisbury, Putnam and Brown of the Public Health League; county executives Addington of the Forty First, Baker of Los Angeles, Dochterman of Sacramento, Nute of San Diego, Neick of San Francisco, Thompson and Monnich of San Joaquin, Rideout of Butte-Glenn, Donovan and Pearce of Santa Clara, Colvin of Santa Cruz and Brown of Sonoma; Mr. Jack Wedemeyer and Doctor Lester McDonald of the State Department of Social Welfare; Doctor H. C. Pulley of the State Department of Public Health; Doctors T. Eric Reynolds and Paul Hoagland and Messrs. Paolini, Nyron, Bentley, Heller and Potloff of California Physicians' Service; Mr. John Pompelli of the AMA; Mr. Richard Layton of AMPAC; Doctors Dan O. Kilroy, Warren L. Bostick, John Schaupp, and William Wickett; Mr. Clifton Linville, president of the California Hospital Association, and others.

1. *Minutes for Approval*

(a) Minutes of the 499th Council meeting, held March 20-25, 1964, were approved with the following corrections: (1) Item 4—accompanying note to show Doctor Hugh A. Frank as from San Diego, vice Sacramento; (2) Item 25—Ralph C. Teall to be shown as elected to the Board of Trustees of Audio-Digest Foundation, vice Samuel R. Sherman.

(b) Minutes of the 500th Council meeting, held March 25, 1964, were approved with the following correction: Item 3(e)—Doctors Anderson and Quinn to be added as members of the Committee on Committees.

2. *Membership*

(a) A report of membership as of April 30, 1964, was presented and ordered filed.

(b) On motion duly made and seconded, 2,093 delinquent members, dues now paid, were voted reinstatement.

(c) On motion duly made and seconded, 24 applicants were voted Associate Membership. These were: Lillian M. Chamberlain, Alameda-Contra Costa; Lowell F. Chemberlen, Geraldine Y. Dyer, Leon O. Janis, Charles W. Norton, Marvin L. Rozofsky, Forty First; Thomas T. Kidwell, Fresno County; Sebastian F. Casalaina, Cyril B. Courville, Edward H. G. Hon, Roger S. Sanderson, Garson Harold Tishkoff, Los Angeles County; Harry T. Butler, Napa County; David C. Gaede, Riverside County; Rosemary Brunetti, Sacramento County; Paul M. Aggeler, Charles T. Carman, Franz Kohout, Howard Duane Siedler, San Francisco County; C. Kelly Canelo, John A. Luetscher, Francis P. Motzenbecker, Jr., Philip Ostlund, Santa Clara County; Wesley Kraude, Ventura County.

(d) On motion duly made and seconded in each instance, 28 members were voted Retired Membership. These were: John C. Dement, John J. Fuery, Henry W. Harding, Ernest R. Jackson, Theodore E. A. McCurdy, Alameda-Contra Costa; John F. Fahey, Juanita Graham Jones, Ralph E. Lindsey, Raymond Ernest McCasline, Milton C. Norgard, George H. Root, Lee C. Williams, Charles J. Witkowski, Forty First; Paul Beddoe, Harry H. Cooke, Leo Gelfand, Malcolm R. Hill, John R. Jimerson, Leila M. Kernkamp, Leonard N. Sloan, Los Angeles County; Frank McGreane, Napa County; Ralph S. Graham, John D. Lawson, Bernard Johnson Rea, Hans Frank Schluter, Sacramento County; John Mott Rector, San Francisco County; Dewey F. Brown, San Mateo County; William H. Geisler, Santa Clara County.

(e) On motion duly made and seconded, six members were voted a reduction of dues because of illness or postgraduate study.

3. *Report of the President*

President Doyle reported on a meeting of the Council of Public Agencies of the California Hospital Association on April 1, at which time it was voted that the regional hospital planning committees established under terms of SB 564 of the 1963 Legislature should be phased out of existence and replaced by a single state agency to continue until January 1, 1969. He also reported on the Committee for Emergency Action recommendation that an after-1969 voluntary statewide coordinating agency be established.

Action: Voted to endorse development of a voluntary statewide agency to assume hospital planning coordination when state agency is discontinued.

Doctor Doyle also reported on several component medical society visits, including Siskiyou, Shasta-Trinity and Sacramento Counties.

4. *Committee for Emergency Action*

Report: Meeting held May 1 discussed 1962 House of Delegates resolutions urging enactment of a Basic Science Law in California. Discussion included review of the diminishing ranks of chiropractic, the one group which might be controlled by such a law, and the potential cost of a campaign to initiate and secure enactment by public vote of such a law.

Action: Voted to take no further steps toward initiation of legislation to secure passage of a Basic Science Law.

Doctor Doyle announced committee's appointment of an Ad Hoc Committee on Kerr-Mills Law. James C. MacLaggan was named Chairman and L. T. Bullock, R. S. Wilbur, Dan O. Kilroy, Arthur F. Howard and Joseph Cosentino members. Samuel R. Sherman was named as consultant.

5. *California Commission for Accreditation of Nursing Homes and Related Facilities*

Doctor Doyle read to the Council the language of Senate Resolution No. 88, adopted by the State Senate commending the activities of this commission in inspecting and accrediting facilities without recourse to public funds. Senator Sturgeon of Paso Robles was the author.

6. *Hospital Staff Judicial Review*

Report: At a meeting of CMA Committee for Emergency Action and the officers of the California Hospital Association, held May 1, CMA recommended creation of a council within hospital staffs for review of an appeal by a physician whose staff privileges have been curtailed or otherwise altered.

Action: Voted to endorse principle of such judicial councils and to add this to the Guiding Principles for Physician-Hospital Relationships.

Discussion also held at this meeting on the study of training and recognition of surgical technicians. CMA was asked to appoint a committee to cooperate with CHA committee.

Action: Voted to refer to Council's ad hoc Committee on Paramedical Personnel. (Arthur A. Kirchner, chairman; Gerson Biskind, Carroll B. Andrews, Frank C. Melone and Gregory Bard.)

7. *Bureau of Research and Planning*

Report: Meeting held April 28, at which Doctor Sherman paid tribute to Doctor Gerald W. Shaw for his leadership of the bureau in a forceful and objective manner. Meeting also voted to proceed with a study of overhead costs of psychiatrists as a study recommended by the Judicial Commission in its study of the extension of professional courtesies.

Action: Voted to authorize study of overhead expenses of psychiatrists.

8. *Report of Speaker of the House of Delegates*

Speaker Quinn announced appointment of an ad hoc committee of the House of Delegates on state fee schedules. Committee composition is: Roger Isenhour, chairman, Milton Futterman, Robert Watson, Joseph Boyle, H. Dean Hoskins, Glenn Pope, Abraham Sirbu, Maurice Salomon, Arthur Howard, and Vincent Carroll; Samuel R. Sherman, consultant.

Speaker Quinn also reported on a meeting of the Committee on Indigent Care of the AMA which he had attended and gave a summary report of a new center for narcotics addicts in Corona.

9. *Future Council Meeting Dates*

Report: Staff presented alternate dates for Council meetings following the September 19, 1964, date as the final scheduled meeting previously approved. Discussion was held on several of the proposed dates.

Action: Voted to approve meetings on October 31 and December 12, 1964, and January 16, February 27 and March 28-31, 1965.

10. *Resolutions of 1964 House of Delegates*

Discussion was held on a number of resolutions adopted by the 1964 House of Delegates and referrals or actions were taken as follows:

Action: Resolution 1-64—voted to establish Committee on Air Pollution under Commission on Public Agencies. Committee on Committees to propose membership.

Resolution 3-64—Transmit copies of resolution to component societies and refer to CMA Committee on Paramedical Groups.

Resolution 6-64—Refer to Commission on Medical Services.

Resolution 15-64—Refer to CPS Trustees with request to develop program using CMA employees. Also agreed to ask that CPS employees could serve as larger exploratory group and that the AMA delegation be advised of Council's approval of intent of resolution for AMA House of Delegates.

Resolution 17-64—Proceed with proposed liaison with labor groups.

Resolution 19-64—First paragraph of resolution be referred to the Ad Hoc Committee on Kerr-Mills Law.

Resolution 33-64—Refer to Commission on Public Agencies. Copies of resolution to be sent to Governor, Director of Social Welfare, Director of State Health and Welfare Agency, to members of the appropriate Senate and Assembly committees and to members of the Medical Care Advisory Committee to the State Department of Social Welfare.

Resolution 45-64—Refer to House of Delegates ad hoc committee on state fee schedules.

Resolution 80-64—Copies to be sent to all California legislators, state and national, also AMA Delegates.

Additional resolutions were referred to various bodies as shown:

Resolution 1-64—Referred to new Air Pollution Committee.

Resolution 4-64—Referred to Bureau of Research and Planning.

Resolution 7-64—Referred to ad hoc Committee on Medical Discipline.

Resolution 9-64—Referred to AMA Delegation.

Resolution 10-64—Referred to AMA Delegation.

Resolution 11-64—Referred to Advisory Committee to Medical Assistants.

Resolution 12-64—Referred to Legislative Committee.

Resolution 13-64—Referred to Bureau on Communications.

Resolution 14-64—Referred to AMA Delegation.

Resolution 16-64—Referred to Bureau on Communications (also Reference Committee No. 1 item entitled "Quality Medical Care Regardless of Ability to Pay").

Resolution 18-64—Referred to Legislative Committee.

Resolution 23-64—Referred to AMA Delegation.

Resolution 25-64—Referred to Commission on Medical Services.

Resolution 34-64—Referred to Liaison Committee to State Bar Association.

Resolution 35-64—Referred to Legislative Committee.

Resolution 36-64—Referred to Commission on Medical Services.

Resolution 37-64—Referred to Committee on School Health.

Resolution 38-64—Referred to Committee on Traffic Safety.

Resolution 49-64—Referred to Commission on Medical Services.

Resolution 53-64—Referred to Commission on Community Health Services.

Resolution 54-64—Referred to AMA Delegation (and also to Council June meeting).

Resolution 57-64—Referred to Legislative Committee.

Resolution 59-64—Referred to Certification Review Committee.

Resolution 75-64—Referred to Bureau of Research and Planning.

Resolution 77-64—Referred to Bureau of Research and Planning.

Resolution 79-64—Referred to Legislative Committee.

Resolution 81-64—Referred to Legislative Committee.

Resolution 82-64—Referred to Legislative Committee.

Resolution 88-64—Referred to Finance Committee and Staff (for implementation).

Resolution 92-64—Referred to Committee on School Health.

Resolution 93-64—Referred to AMA Delegation.

Resolution 95-64—Referred to Legislative Committee (for recommendation).

Resolution 96-64—Referred to the Speaker.

ACTION: Recommendation of Reference Committee No. 1 of House of Delegates, re publicizing television films and other educational material on hand, referred to Bureau on Communications.

ACTION: Recommendation of Reference Committee No. 1 of the House of Delegates, re diversion of Kerr-Mills funds, referred to Ad Hoc Committee on Kerr-Mills Law.

ACTION: Recommendation of Reference Committee No. 4 of House of Delegates, re composition of House of Delegates, voted to ask committee on Committees to name committee to study and make report. (Bylaws amendment No. 10, not adopted.)

11. *California College of Medicine*

Doctor Warren L. Bostick, dean, gave a progress report on California College of Medicine and thanked the Council for its continuing support.

12. *State Department of Social Welfare*

Doctor Lester McDonald, medical director of the State Department of Social Welfare, introduced Mr. Jack Wedemeyer, Director of the department, who reported on the implementation of the Kerr-Mills program and reported that an advisory committee to the Health and Welfare Agency had recommended that categorical aid programs be discontinued and all medical care programs be placed together in one program. He also stated his department's pleasure with the PAMC program in Santa Barbara County, under California Physicians' Service direction. Mr. Wedemeyer answered several questions brought by Councilors. He also announced that he had been appointed as the representative of all state welfare directors to an HEW Advisory Committee.

13. *Medical Executives Conference*

Joseph Donovan, Santa Clara County, reported for the Medical Executives Conference, outlining several items discussed at the May 1 meeting. No actions taken.

14. *California Hospital Association*

Clifton Linville, president of the California Hospital Association, reported on the association's executive committee meeting with CMA officers on May 1 and urged continued cooperation between the two associations on matters of mutual interest.

15. *California Physicians' Service*

REPORT: Doctor Paul Hoagland, CPS board chairman, reported that no commercial groups remain under A and B fee schedules. He also reported that a $7,500 income ceiling must be established for federal employees if 75% of these employees are to be covered under service programs. Doctor Hoagland also reported that the Western 65 Plan, in which California Physicians' Insurance Co. is a participant, had enrolled more than 45,000 subscribers in the initial enrollment period. Average age of enrollees was 72½ years and 69% were females, 31% males.

16. *Overseas Medical Missions*

Doctor William Wickett, Orange County, reported on his experiences as a medical missionary in Africa and subsequent public appearances. He pointed to several overseas medical projects sponsored by medical societies and urged CMA assistance in maintaining records as a clearing house of information for this type of service. The staff reported its belief that the type of assistance asked could be handled by its Placement Service.

ACTION: Voted to assign overseas medical service duties to Placement Service, with Doctor Wickett as a consultant.

17. *Finance Committee*

REPORT: Chairman Murray reported the committee's consideration of reimbursement of CMA officers while on Association business. He pointed out that the president and president-elect are now entitled to an honorarium of $100 per day beyond travel and maintenance expenses, while other officers who may be frequently called upon are not similarly reimbursed. The committee recommended that the Chairman of the Council and the Speaker of the House of Delegates be added to the president and president-elect as eligible for the honorarium for weekdays spent on CMA assignments and activities.

ACTION: Approval voted on committee recommendation.

18. *Committee on Committees*

Committee recommended that the names of Doctors William D. Evans and Donald Abbott be submitted to the Board of Nurse Registration for their selection of one as a CMA representative on its Advisory Council.

ACTION: Recommendation approved.

The committee recommended that an Air Pollution Committee be established as a subcommittee of the committee on State Medical Services of the Commission on Public Agencies. Recommended for membership were Doctors Francis Pottenger, chairman, and Grace Talbott, Reginald Smart, George Martin, Stanley Skillicorn and Robert L. Hippen.

ACTION: Committee recommendations approved.

19. *Commission on Community Health Services*

REPORT: Chairman Kay referred to a report already distributed on the role of the industrial nurse in noise control and asked approval.

ACTION: Report approved as distributed.

20. *Commission on Professional Welfare*

Mr. Whelan, reporting for the Medical Review and Advisory Board, referred to a statement prepared by MRAB and a committee of the California Hospital Association on medical information secured from newly admitted hospital patients concerning known allergies and adverse drug reactions. The board requested acceptance of the statement and authority to distribute it through publication or other means.

ACTION: Report accepted and authority voted for distribution by publication in medical and hospital publications or other means. Referred to Bureau on Communications.

21. *Committee on Legislation*

REPORT: Doctor Dan O. Kilroy, chairman of the committee, reported on a number of items now before the Legislature or its interim committees. These included:

Assembly Bill 59—Statements of county supervisors to be made before Senate committee; CMA to have chance to testify at a later hearing.

Interim Committee has held hearings on CMA proposal that medical deductions for state income tax purposes be made to conform with federal provisions. Prospects for passage of this proposal do not appear good at this time.

Respiratory centers—provision for establishment of two centers in state is not now included in the proposed state budget. Doctor Kilroy suggested taking an interest in this proposal for later report to the State Senate.

ACTION: Voted that Scientific Board study problems of respiratory disease, treatment and rehabilitation and make later report.

Bill has been entered to include ambulance drivers and attendants to physicians for relief from certain civil liabilities under "Good Samaritan Law."

ACTION: Voted to take no action at this time on this bill.

Move to incorporate federal Keogh Law into state income tax laws. No action seen until 1965 legislative session.

Assembly Bill 2658—out-of-state laboratories—interim committee hearing scheduled for May 13 but may be cancelled if Legislature is then in session. No action taken.

House Resolution 219—introduced by chairman of Assembly Committee on Social Welfare. Asks appointment of interim committee to study medical resources of economically disadvantaged persons in state.

Assembly Bills 91 and 92—Bills have passed Assembly and are now before the Senate. They provide amendments to permit participation in federal grants-in-aid for construction of community health centers and provide expansion of hospital advisory council of Department of Public Health to include four additional members representing mental health interests. Amendments are being prepared to assure that use of funds by Department of Mental Hygiene be retained in that department and not shifted to Department of Public Health, except funds allocated for construction of facilities.

Workmen's Compensation Study Commission—this commission is studying various workmen's compensation bills referred to it by the Legislature and its monthly meetings will be followed.

22. *Scientific Board*

REPORT: Chairman Shaw announced distribution of reports on (1) pesticides and (2) radiation hazards, copies of which had been sent to all Councilors, and asked approval for publication.

ACTION: Approval voted for both reports.

Doctor Shaw also announced that plans for the scientific program for 1965 were proceeding, with the theme to be virology. The theme will be followed in general meetings but sections are being urged to vary their meetings from this theme if desired.

Statements on PKU testing and on smoking are in preparation for future submission to Council.

Committee on Continuing Education is preparing a report which will ask further means of support and coordination.

23. *Items of New Business*

(a) Bureau on Communications asked to study methods of recognizing services of past members of Council.

(b) Suggestion for session on practical politics during Annual Session—referred to AMPAC Volunteers for consideration as part of its annual program.

(c) Request of a former member for assistance in regaining membership referred to county medical society.

(d) Task Force on Workmen's Compensation; voted to continue committee without change.

(e) Ad hoc committee on Council format. Voted to name Councilor Maguire to succeed former Councilor Dalton and to continue Councilor Cosentino as chairman.

(f) Ad hoc committee on study of radiology; voted to reappoint committee to continue studies.

(g) California Hospital Association two-day meeting on community mental health services; voted to co-sponsor meeting without financial participation.

(h) Ad hoc committee on Medical Discipline; voted to continue committee for further report.

(i) Request for CMA statement on mental retardation for State Study Commission on Mental Retardation; voted to refer to Committee on Mental Health for study.

(j) Request for study by Bureau of Research and Planning, in cooperation with Los Angeles County Medical Association and State Board of Medical Examiners, to ascertain characteristics of physicians who are not members of medical societies. The pilot study would be conducted in Los Angeles County. The objective of the study is to determine reasons for nonmembership as determined by (1) characteristics of practice and (2) attitudes and beliefs of physicians. Cost estimated at about $2,500 to come from the Bureau's budget. Voted to refer to Bureau of Research and Planning.

(k) Councilor Ham reported his earlier appointment to a committee to study various aspects of school health and asked instructions as to further procedures; voted to ask Committee on School Health to confer with and advise Doctor Ham.

ADJOURNMENT

There being no further business to come before it, the meeting was adjourned in the memory of Mrs. Ivan C. Heron at 4:30 p.m.

CARL E. ANDERSON, M.D., *Chairman*
MATTHEW N. HOSMER, M.D., *Secretary*

The Role of Medicine in Society

A Progress Report of a Committee of the California Medical Education and Research Foundation

SAMUEL R. SHERMAN, M.D., San Francisco

In March 1963 the Council of the California Medical Association voted to undertake a study of the Role of Medicine in Society. This action was transmitted to the House of Delegates at its meeting on March 23-27, and received the concurrence of Reference Committee No. 1 and the approval of the House.

The Board of Directors of the Foundation, consisting of Dr. Samuel R. Sherman, President, and Drs. Carl E. Anderson, Burt L. Davis, James C. Doyle, William F. Quinn, and Mr. Howard Hassard, appointed Drs. Sanford Feldman, Elmer F. Gooel, Paul I. Hoagland, Edward B. Shaw, Gerald W. Shaw, and Malcolm S. M. Watts to serve with it as the constituted committee to conduct the study.

In preparation for its first meeting on October 23, the Committee reviewed a 20-page working paper, prepared by Dr. Watts, which posed the wide range of basic questions and issues confronting the medical profession, and which outlined the dimensions of the problems with which the medical profession should concern itself. This working paper, together with a broad selection of materials and reports compiled by the Foundation's Research Staff, has proven to be a most useful working tool for the Committee and for the experts who have met with it over the past five months.

The Committee has held three formal meetings; one with leaders of the social and behavioral sciences, one with representatives of management, labor and the press, and a third in executive session for the purpose of assessing the progress it had made and the direction it should take as the inquiry progresses. The Committee is impressed with the fact that it is dealing with crucial and fundamental issues which cannot be resolved overnight or even within a few months. The Committee believes that the scope of its study will require several years of intensive work and deliberation before exhaustive, definitive conclusions can be reached.

The objectives of this broad-gauge study which were adopted by the Committee at its meeting on October 23, 1963, are to:

1. Study and to explore the nature of *existing* relationships between the medical profession and society;

2. Examine the problems, issues, and developments which are of concern to the medical profession and to the public in the rendition and receipt of medical care;

3. Delineate the mutual obligations and responsibilities of the medical profession and society, and the communication of ideas and ideals between them;

4. Inquire into the demands and needs for medical care among the public and its various segments;

5. Determine those methods, techniques, and opportunities through which the medical profession can best provide the highest quality of medical care to the people it serves;

6. Re-evaluate programs and policies in the light of medical advances and technological and social changes which affect medicine's relationships to the individual, the community, and its subgroups, and society as a whole;

7. Explore the findings of other disciplines, particularly those in the behavioral sciences, in order to ascertain how the products of other research can be utilized by the medical profession; and

8. Determine how the amalgam of interests of the medical and social sciences and the public can coalesce to formulate contemporary approaches to, and future directions in, health care.

On that same day, the Committee met with its first group of experts; prominent leaders in the behavioral and social sciences, who shared with the Committee their perceptions of medicine's image as viewed by the public, their intimate knowledge of the problems which confront medicine, and the questions posed by the public and representatives of community organizations with which they have contact through their disciplines.

To illustrate the caliber of the individuals who have been invited to meet with the Committee, the following is a thumbnail sketch of the interests and activities of some of these persons:

Professor John Clausen is Director of the Institute of Human Development at the University of California at Berkeley. He has a wide knowledge of the field of the social sciences, and has been a contributor to various publications which have dealt with various socio-economic aspects of medical care. Most recently he was one of the editors of a special issue of *The Annals of the American Academy of Political and Social Science*, which devoted itself completely to the subject of "Medicine and Society."

Father Timothy McDonnell is a political scientist at the University of San Francisco who has a na-

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Presented to the CMA House of Delegates, March 21, 1964, by Samuel R. Sherman, M.D., Chairman of the Committee to Study the Role of Medicine in Society.

tional reputation as an arbitrator for labor and management affairs, but whose training and experience have brought him in close contact with schools of nursing and hospital administration. His discussion of third parties and para-medical personnel, and their relationship to the medical profession, represented a contribution which was invaluable for the purposes of our study.

Professor John Mothershead of the Philosophy Department of Stanford University provided a synthesis of the ideas and ideals of various segments of the public with which the medical profession should be familiar, and pointed to directions of activity which might help to overcome public hostility and criticism.

On December 18, the Committee met with another group of individuals who are outstanding leaders in their fields of endeavor.

Mr. Albin Gruhn is the President of the California Labor Federation, AFL-CIO. He has been an active member for many years of various community organizations and has represented labor on various local and state study committees and activities.

Mr. Charles Spark Thomas, former Secretary of the Navy and currently President of the Irvine Ranch Company, was able to provide the Committee with the perspective of one who has viewed various problems of medical care both as a government official and as an expert in management.

Mr. Herb Klein, Editor of the San Diego *Union*, and previously actively associated with Richard M. Nixon, the former Vice President of the United States, was able to share with the Committee his experience as a working reporter and as an editor attuned to expressions of public opinion.

The Committee's files are beginning to accumulate the wide range of opinions and attitudes of various segments of society toward the medical profession, and to reflect the suggestions and criticisms which will ultimately aid it in reaching conclusions. For the purpose of this Progress Report, it is sufficient to note that many of the commentators on medicine's role state that, although the medical profession has achieved preeminence in the techniques and technology of the scientific aspects of medical care: (1) Physicians tend to create the impression of providing impersonal care, (2) The public lacks awareness of medicine's social and economic objectives, (3) Organized medicine has failed to keep abreast of social and economic changes which are occurring in our society, (4) "Organized medicine" on the national level is a conservative force which dominates the social and political philosophy of physicians and which is not attuned to present needs and possibilities, (5) Physicians as a group possess a great deal of power and influence and have used these attributes in a manner which, although primarily self-seeking, furthers neither their own interests nor those of society, (6) Medicine is opposed to various social and legislative changes for reasons of personal interest, (7) Organized medicine has not accurately reflected the opinions of the majority of physicians.

Needless to report, the Committee has permitted no opportunity to go by without correcting any misstatements of fact or misrepresentations regarding the goals and objectives of the medical profession. The presence of these critical statements is, however, symptomatic of the underlying problems and attitudes in variations of perspective which confront the medical profession, and for which remedial action of one type or another should eventually be taken.

The Committee frequently heard the statement which is all too familiar to most physicians; that the doctor's patient has only the highest regard for, and confidence in, him, but does not transfer this confidence to the medical profession as a whole. In an effort to pinpoint the reasons for this ambivalence, the Committee was impressed by the variety of elements which can possibly account for this apparent contradiction. The following are a few of the discernable accusations culled from many sources:

1. Physicians' incomes are too high.
2. Overcharges are widespread, and physicians scale their charges upward according to their unilateral estimate of the patient's ability to pay.
3. Physicians "protect" each other.
4. Criticisms exist regarding the medical profession's attitudes toward "comprehensive" medical care and organizational methods of providing such care through group practice.
5. The medical profession has failed in its responsibility to inform the public as to the type of medical care which it should receive and as to the content or scope of such a program.
6. Physicians fail to assume adequate responsibility for assuring quality of care, or for disciplining their own members.
7. Physicians fail to take an interest in community activities and matters which affect broad segments of the public.
8. The medical profession is a monopoly, and tries to limit the entry of new physicians into the profession.
9. Physicians are concerned with illness but not sufficiently with prevention of illness or ways to rehabilitate disabled persons.
10. Differing points of view are not tolerated within the medical profession; and finally,

11. The medical profession has never actually stated its position regarding the right or entitlement of people to receive good medical care when they need it.

It is this last criticism which has been identified by some observers as the source of a major loss of prestige the medical profession suffers today. Some persons believe that the medical profession's position regarding medical care for the aged under social security is unrealistic and represents just another example of what the medical profession will eventually accept when it is enacted, but is resisting to the utmost until the inevitable occurs.

Because the medical profession has reputedly not clearly stated to the public its position about medical care for the aged, and because a highly variegated system of medical assistance to the aged has developed throughout the United States in answer to King-Anderson type legislation, some observers feel that the public has equated medicine's position as one of being "against people."

Our Committee feels that, although it is premature to present a variety of recommendations at this time, there is one that should be considered without any delay. This pertains specifically to medicine's position regarding the availability of medical care to the various segments of the public. The Committee therefore recommends: *that the policy of the California Medical Association and of the medical profession of the nation be that of assuring every individual of good medical care by doctors of medicine, and the availability of such professional care when he or she needs it.* Physicians are dedicated to serve all people in need of medical attention, regardless of their ability to pay for medical care.

This statement of principle and social philosophy, if adopted, must be accepted with the greatest degree of responsibility physicians of this State and of the country can assume. For, in essence, it does guarantee the availability of good medical care to every individual when he needs it, and it does obligate every physician to provide such care when called upon to render it. Although most physicians would assert that this policy does not differ from one which they believe has existed historically, a clear proclamation of medicine's goals is of prime importance at this time.

The Committee believes that, by this time next year, it will be able to report further progress in its study and to present a number of suggestions and recommendations based upon its observations in its further study of the role of medicine in society. It is our opinion, however, that serious consideration should be given by all county medical societies, their officers, and their members, to the allegations and charges as well as positive suggestions from various points of view which may mirror the dissatisfaction extant with regard to the medical profession in America today.

California Medical Education and Research Foundation, 693 Sutter Street, San Francisco, California 94102.

SACRAMENTO VALLEY COUNTIES

Presented cooperatively by Sacramento Valley Counties Medical Societies, University of Southern California School of Medicine and California Medical Association, Committee on Continuing Medical Education. A 12-hour course.

HOST: Sacramento County Medical Society. **Regional Chairman:** William Tucker, M.D., 3560 Jay Street, Sacramento.

INSTITUTE FEE: $15.00. For additional information contact Continuing Medical Education office, California Medical Association, 693 Sutter Street, San Francisco 94102. All California Medical Association members and their families are cordially invited to attend.

14th ANNUAL regional postgraduate institute

HARVEY'S
RESORT HOTEL
Lake Tahoe
June 25-27, 1964

program — RENAL DISEASE

THURSDAY AFTERNOON, JUNE 25

12:30—**Registration**

RENAL FUNCTION TESTS

1:30-2:10—**Medical Renal Function Tests**—Ralph E. Homann, Jr., M.D.

2:10-2:40—**The Urologist Evaluates Renal Function**—Frank Hinman, Jr., M.D.

2:40-2:50—**Renal Biopsy**—Benjamin H. Barbour, M.D.

2:50-3:00—Intermission

3:00-4:30—**Three Concurrent Workshops**
- A. **Evaluation of Renal Function in Pediatrics**
- B. **Obstructive Uropathy in Adults**
- C. **Renal Function Tests in General Practice**

FRIDAY, JUNE 26

Morning Session

RENAL FAILURE

9:00-9:20—**Recognition and Management of Uremia Not Due To Renal Disease**—Ralph E. Homann, Jr., M.D.

9:20-9:45—**General Management of Acute Renal Failure**—Benjamin H. Barbour, M.D.

9:45-10:30—**Questions and Answers on Dialysis and Transplantation Procedures**—Joseph F. Boyle, M.D., Moderator, William G. Hammond, M.D., Frank Hinman, Jr., M.D., Sanford J. Kronfield, M.D.

10:30-10:45—Intermission

10:45-12:15—**Three Concurrent Workshops**
- A. **Chronic Renal Failure in Adults**
- B. **Humoral Mechanisms in Hypertension**
- C. **Congenital Renal Disease**

Afternoon Session

MISCELLANEOUS PROBLEMS

1:30-2:00—**The Nephrotic Syndrome**—Solomon A. Kaplan, M.D.

2:00-2:30—**Recognition and Treatment of Respiratory Acidosis**—Joseph F. Boyle, M.D.

2:30-3:00—**Bladder Defense Mechanisms and the Catheter**—Frank Hinman, Jr., M.D.

3:00-3:15—Intermission

3:15-4:45—**Three Concurrent Workshops**
- A. **Pyelonephritis in Children**
- B. **Problems in Renal Artery Hypertension**
- C. **Pyelonephritis in Adults**

SATURDAY, JUNE 27

Morning Session

FLUID AND ELECTROLYTE PROBLEMS

9:00-9:30—**Oliguria Due to Unrecognized Hypovolemia**—William G. Hammond, M.D.

9:30-10:00—**Acidosis Due to Lactic Acid**—Robert E. Tranquada, M.D.

10:00-10:30—**Evaluation and Management of Patients with Hypokaliemia**—Sanford J. Kronfield, M.D.

10:30-10:45—Intermission

10:45-12:15—**Three Concurrent Workshops**
- A. **Common Fluid and Electrolyte Problems in Children**
- B. **Common Fluid and Electrolyte Problems in Surgical Patients**
- C. **Common Fluid and Electrolyte Problems in Medical Patients**

In Memoriam

ARBUTHNOT, RACHAEL ELSIE, Los Angeles. Died April 19, 1964, in Los Angeles, aged 85, of cerebral hemorrhage. Graduate of the University of California School of Medicine, Berkeley-San Francisco, 1922. Licensed in California in 1922. Doctor Arbuthnot was a retired member of the Los Angeles County Medical Association and the California Medical Association, and an associate member of the American Medical Association.

✣

BERLINER, HARRY MORRIS, Los Angeles. Died March 20, 1964, aged 61, of myocardial infarction. Graduate of the New York University College of Medicine, New York, 1927. Licensed in California in 1958. Doctor Berliner was a member of the Los Angeles County Medical Association.

✣

CANTAROW, JACOB HAROLD, Beverly Hills. Died April 30, 1964, in Los Angeles, aged 58, of aortic aneurysm. Graduate of Temple University School of Medicine, Philadelphia, Pennsylvania, 1932. Licensed in California in 1933. Doctor Cantarow was a member of the Los Angeles County Medical Association.

✣

FISHLER, HARRY W., Los Angeles. Died April 3, 1964, aged 59, of burns in an automobile accident. Graduate of Northwestern University Medical School, Chicago, Illinois, 1930. Licensed in California in 1932. Doctor Fishler was a member of the Los Angeles County Medical Association.

✣

FLUSS, ZDENEK, MERCED. Died April 6, 1964 in San Francisco, aged 41, from head injuries suffered in an automobile accident. Graduate of the University of Bristol Faculty of Medicine, Bristol, England, 1950. Licensed in California in 1952. Doctor Fluss was a member of the Merced County Medical Society.

✣

GLEASON, AURELIUS LAWRENCE, Pebble Beach. Died April 15, 1964, in Oakland, aged 63, of cerebral artery thrombosis. Graduate of the University of Michigan Medical School, Ann Arbor, 1925. Licensed in California in 1926. Doctor Gleason was a member of the Alameda-Contra Costa Medical Association.

✣

HUFFMAN, HARRY GUSTEN, Balboa. Died April 27, 1964, in Orange, aged 66. Graduate of the University of Nebraska College of Medicine, Omaha, 1921. Licensed in California in 1922. Doctor Huffman was a retired member of the Orange County Medical Association and the California Medical Association, and an associate member of the American Medical Association.

✣

KING, ERROL RUSSELL, Riverside. Died April 14, 1964, in Riverside, aged 74. Graduate of the College of Osteopathic Physicians and Surgeons, 1915. Licensed in California in 1916. M.D. degree from the California College of Medicine, 1962. Doctor King was a member of the Forty First Medical Society.

✣

KULKA, HERBERT, San Francisco. Died April 27, 1964, in San Francisco, aged 61. Graduate of the Medizinische Fakultät der Universität, Wein, Austria, 1926. Licensed in California in 1941. Doctor Kulka was a member of the San Francisco Medical Society.

LISSER, HANS, San Francisco. Died April 29, 1964, in San Francisco, aged 76, of heart disease. Graduate of Johns Hopkins University School of Medicine, Baltimore, Maryland, 1911. Licensed in California in 1911. Doctor Lisser was a retired member of the San Francisco Medical Society and the California Medical Associaton, and an Associate member of the American Medical Association.

✣

MARMOR, ARTHUR A., Santa Rosa. Died April 5, 1964, in Los Angeles, aged 49, of coronary occlusion. Graduate of the University of Colorado School of Medicine, Denver, 1942. Licensed in California in 1946. Doctor Marmor was a member of the Sonoma County Medical Society.

✣

MARTIN, ROBERT CARSON, San Francisco. Died May 7, 1964, near Los Gatos, aged 70, of coronary occlusion. Graduate of the University of California School of Medicine, Berkeley-San Francisco, 1920. Licensed in California in 1920. Doctor Martin was a member of the San Francisco Medical Society.

✣

MATLOCK, THOMAS T., Whittier. Died April 9, 1964, in Whittier, aged 79. Graduate of Northwestern University Medical School, Chicago, Illinois, 1910. Licensed in California in 1923. Doctor Matlock was a retired member of the Kern County Medical Society and the California Medical Association, and an associate member of the American Medical Association.

✣

OTIS, J. VINCENT, Soledad. Died March 31, 1964, in Salinas, aged 45, of heart disease. Graduate of the University of Washington School of Medicine, Seattle, 1953. Licensed in California in 1954. Doctor Otis was a member of the Monterey County Medical Society.

✣

OWEN, COLIN CAMPBELL, San Bernardino. Died April 28, 1964, in San Bernardino, aged 73, of heart disease. Graduate of the University of Michigan Homeopathic Medical School, Ann Arbor, 1915. Licensed in California in 1916. Doctor Owen was a member of the San Bernardino County Medical Society.

✣

PARKER, HOWARD ROSCOE, Oakland. Died April 10, 1964, in Oakland, aged 84, of acute coronary occlusion. Graduate of Syracuse University College of Medicine, New York, 1905. Licensed in California in 1912. Doctor Parker was a member of the Alameda-Contra Costa Medical Association, a life member of the California Medical Association, and a member of the American Medical Association.

✣

WESTFALL, FESSENDEN OTIS, Los Angeles. Died April 29, 1964, in Madrid, Spain, aged 70, of a coronary. Graduate of Northwestern University Medical School, Chicago, Illinois, 1925. Licensed in California in 1925. Doctor Westfall was a retired member of the Los Angeles County Medical Association and the California Medical Association, and an associate member of the American Medical Association.

✣

WROBEL, CHARLES JOSEPH, Beverly Hills. Died April 28, 1964, in Beverly Hills, aged 44. Graduate of the University of California School of Medicine, Berkeley-San Francisco, 1944. Licensed in California in 1946. Doctor Wrobel was a member of the Los Angeles County Medical Association.

PUBLIC HEALTH REPORT

MALCOLM H. MERRILL, M.D., M.P.H.
Director, State Department of Public Health

THE INCIDENCE of meningococcal infection has been on the increase since the low year of 1959 when 190 cases were reported. This is in conformity with earlier observations that the disease shows some evidence of cyclical occurrence with peaks at 8 to 12 year intervals. The number of cases reported the first three months of the year was 128 as against 99 cases during the like period a year ago.

The greatest increase in the last two or three years has occurred in the Central region of California and to a lesser extent in the South Central Coast region and in the San Diego area. These areas contain military installations and outbreaks in the military population have contributed substantially in this rise.

In San Diego County, for instance, in the years 1960-62 about one-third of all recorded cases of meningococcal infections were reported by the military. In 1963, the military accounted for over half of all cases there. In Monterey County the military reported about 25 per cent of all cases in the 1960-62 period; in 1963, about 65 per cent.

There is no doubt that California is experiencing an increase in the number of reported cases. The increase is not evenly distributed throughout the state, but is more concentrated in certain areas. Also, we are in a rising phase of the disease cycle. There is nothing to suggest that this represents an alarming increase in cases in the general population at this time.

Recently, problems have arisen with respect to the treatment of meningococcic infections and the prophylaxis of contacts with carriers. These are currently under study. The question at issue developed when strains of sulfonamide resistant meningococci were grown on cultures of material from patients with purulent meningitis.

This presents a new situation since sulfonamides have been regarded as an unfailing recourse for both treatment and prophylaxis of the disease for nearly a quarter of a century. In spite of the recent apparent failure of sulfonamide to reduce the carrier rate in military populations, this department feels that, in the present state of our knowledge, no change is warranted in the general recommendation regarding chemoprophylaxis with sulfonamide.

How many of the resistant strains—which made their appearance initially in the military— are now found in the civilian population is not known. No serious failure in protection, however, is noticed anywhere in the country and it appears reasonable to conclude that most strains continue to be susceptible to conventional treatment. Further clarificaton of this question is necessary and is being attempted on the national level.

* * *

Nearly half of the major crimes in California may be committed by persons under the influence of alcohol according to a department study of criminal offenders and drinking involvement. The study was conducted jointly with the State Department of Corrections to learn if problem drinkers were in prison because of their behavior while drunk or because of criminal tendencies.

The study concluded that drinking does not necessarily cause crime or that problem drinkers have criminal dispositions. But it did show that problem drinkers were more likely to get in trouble with the law because of their behavior while drinking or because they needed money to continue drinking.

* * *

Driving ambulances faster than speed limits saves few lives, according to the results of a preliminary study of emergency operations conducted by the Health Department and the California Highway Patrol.

However, the report did have the following to say about the 5,000 reports of ambulance trips made at speeds in excess of limits during the first six months of 1963.

1. Attending physicians felt the time saved by extra speed was of benefit for about eight per cent of the patients. In most of these instances, the patient was seriously poisoned.

2. Most people carried by ambulances exceeding the speed limit are critically ill or injured.

3. In most instances ambulance personnel were accurate in deciding the seriousness of the patient's condition.

LETTERS *to the Editor*

Toxic Reactions To Psychopharmaceuticals

THE RECENT FDA-induced withdrawal of tranylcypromine from the market brings to the forefront a general issue which, in the light of an ever-burgeoning list of potent psychopharmacological agents, promises to be operative repeatedly in the future. This issue is one which is quite apart from those having to do with adequate drug testing, complete reporting, or a thorough biochemical understanding of the ramifications of the actions of a drug. The recent letter from the producers of tranylcypromine stating that "over three and one-half million people" had been given this drug* appears to epitomize the factor which almost guarantees the repeated occurrence of deaths and serious toxic reactions in significant numbers with potent psychopharmaceuticals in the future.

It appears that advertising done by drughouses promoting the use of quite potent drugs for such ambiguous (and perhaps omnipresent) symptoms as "depression" and "anxiety" helps coax the doctor into considering as candidates for such medication an overly broad spectrum of patients. In the case of "depression" for example, who among us would not report in the affirmative to a question asking whether we are depressed sometime during a month; and these people are descriptively mixed with the depressed suicidal involutional depression, the psychotically depressed and other such patients with life-threatening illness in the nonspecific overselling in the psychopharmacological drug commercial material. The patient with a run-of-the-mill transient depressive feeling would not warrant the risk of tampering with his limbic and brain stem amine systems that the immobilized, suicidal patient might. The doctor who uses advertisements and detail men as his primary source of information concerning these drugs seems to share the blame in falling victim to such "pushing" in not being familiar with the scientific literature of at least a few drugs in each category, their side effects and adequate justifications for their use. The over-use of the large crop of powerful psychopharmacological agents seems no less careless and dangerous than the use of corticoids without careful discrimination between allergic and infectious inflammation or antimetabolites without discriminating between a leukemoid and real neoplastic changes in blood cells. For even a relatively safe potent drug can kill in significant numbers if it is given to an unwarrantedly large population.

There is no question that some of the current crop of psychopharmacological agents are potentially dangerous (as well as potent), others are less dangerous (and less potent). It would seem that both the drug companies and the prescribing physician should be more specific in their indications for use of the more potent ones than the ill-defined symptoms of "anxiety" and "depression." I wonder how many of the "three and one-half million" receivers of tranylcypromine would have gotten the drug with the more sound use of solid indications.

ARNOLD J. MANDELL, M.D.

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*Letter distributed by Smith, Kline, and French, March, 1964.

Mental Illness and Private Medicine

DR. MARSEILLE SPETZ' comments in the February 1964 issue of CALIFORNIA MEDICINE cry out for rebuttal. Her conglomeration of fantasy, fact, politics and psychology might lead someone to such a state of confusion as to mistakenly assume something significant has been said.

As a psychiatrist, my work is divided between the private practice of psychiatry and as a psychiatric consultant to the Bureau of Social Work of the Department of Mental Hygiene, I spend considerable time assisting, "of all people" (as Dr. Spetz would say), social workers. The task involves helping the patient discharged from the hospital to get back on his feet again, in his community, at his job. For each patient this requires a combination of social, psychological and medical assistance in proportions varying with the individual's needs.

With certain positive suggestions that Dr. Spetz has made, I can only agree. I think that community physicians should play a larger role in following patients who have left the mental hospital. I think that if they take the time to see and understand these people, the rewards would be great not only for the patients, but for the physicians themselves; and I do not mean monetarily. I also agree with the need for psychiatric beds in local general hospitals.

But some of Dr. Spetz' comments falter in the fire of politics and personal bias. For example, Dr. Spetz comments that "the government agency, in order to care for these patients, sets up more bureaucracies using the same old methods that don't work." What Dr. Spetz is referring to is vague. But, we do know that patients are improving and being discharged from state hospitals at rates never seen before. The total mental hospital population in California has been reduced, while, on the other hand, the general population has increased tremendously. This results from new approaches and hard work. It doesn't reflect old methods that don't work. The research reported from California mental hospitals is great in quantity, often imaginative in content, and alert to the newest possibilities to help patients.

Dr. Spetz speaks of private physicians (as opposed to government agencies) making etiological diagnoses which would make entirely different prognoses. She implies that government agencies make diagnoses that are inaccurate and then treat accordingly. Physicians make the diagnoses in state hospitals or out of them, not agencies. It is unreasonable to generally expect more accurate diagnoses from physicians in private practice unfamiliar with severe emotional conditions, than from physicians working in a mental hospital studying these conditions every day. The doctor suggests that the state hospital should send regular progress reports to private physicians regarding their patients, as is the case in teaching centers. I think this would be good, but in view of the enormous admission rates to these state hospitals and the limited number of staff, it would seem more reasonable to me that the private physician show his continuing concern by contacting the hospital about his patient.

Her further remarks about the railroading and retention of patients in the hospital and "nefarious, prejudicial and Gestapo-like practices" of those working with these patients are bunk. She defames the names of those doing their best to help these patients and implies that honesty and worth are characteristics limited to doctors in private practice.

The suggestion that the California Medical Association hire a psychiatric consultant to assist physicians locally is interesting but again vague. It would appear to me that psychiatrists and other physicians in each county should define any plan of this type. It might turn out that the county medical association itself could best offer both a plan and services to train community physicians to help their community in the area of mental health.

I think that we as physicians should continue to seek better ways to help our emotionally disturbed patients. I would suggest that these investigations should not castigate or exclude those persons already working with these patients.

IRWIN KEMPLER, M.D.
Newport Beach

NEWS & NOTES

NATIONAL · STATE · COUNTY

LOS ANGELES

Dr. Roger O. Egeberg, medical director of the Los Angeles Department of Charities, was elected president of the State Board of Public Health at its meeting on March 24. He succeeds **Dr. Charles E. Smith,** who had been president since 1944.

* * *

The La Vina Sanatorium and Hospital of Altadena has opened a new unit of 25 beds for the care of **non-tuberculosis respiratory diseases.** Dr. W. H. Oatway will be physician-in-charge. La Vina is a non-profit hospital and the tuberculosis division was founded in 1909. The new unit is equipped for modern care and research.

ORANGE

Dr. Edward Lee Russell, Orange County health officer, and his associates in the health department received national recognition last month—two **Crumbine Award** plaques. It is the first time any Health Department has won two of the Crumbine Awards in a single year.

The awards, sponsored by the Paper Cup and Container Institute, are a memorial to the late Dr. Samuel J. Crumbine, for many years public health officer of the State of Kansas, who achieved international fame for his vigorous campaigns for sanitation, including the outlawing of the common drinking cup. This year's two awards to the Orange County Health Department were won in competition with 2,000 communities of the United States. They were given for outstanding programs in the categories of environmental health and food and drink sanitation.

In accepting the award, Dr. Russell paid tribute to the work of Robert S. Stone and others of the department's staff in developing and contributing to the winning programs. Credit, he said, was also due to the County Medical Society, to hospital administrators and the community in general.

SAN DIEGO

Announcement of the appointment of two physicians to administrative positions on the faculty of **University of California at San Diego** was made recently by Chancellor Herbert York. The appointments to the school, which according to present plans is to open in the fall of 1967, are Dr. Robert N. Hamburger as assistant dean of the school of medicine and Dr. S. J. Singer as chairman of the department of biology.

Dr. Hamburger, an associate professor, will work with Dr. Joseph Stokes III, dean of the school, in planning the new institution. Dr. Singer has been professor of biology since 1961.

FOREIGN MEDICAL SERVICE

The CMA's Physician Placement Service has recently been assigned the responsibility for providing information to physicians in the state who are interested in practicing overseas. The Placement Service is compiling data about foreign practice opportunities sponsored by various churches, government agencies, and other institutions.

Physicians who have served overseas are urged to write the Placement Service in order to provide its staff members with more complete knowledge about positions available. Anyone who has had recent experience in overseas medical service is requested to give information on his employer, on living conditions and on any special problems that were encountered.

Inquiries about foreign assignment are welcome also. Information or inquiries may be directed to California Medical Association, Physician Placement Service, 693 Sutter Street, San Francisco, California. Phone: PRospect 6-9400.

SAN FRANCISCO

Dr. Edgar Wayburn, president-elect of the San Francisco Medical Society, has been named a winner of the **American Motors Conservation Award,** and a commemorative plaque was presented to him by Mr. Roy Abernethy, president of American Motors, at a dinner in Washington, D.C., May 21. For the past three years Dr. Wayburn has been president of the 23,000-member Sierra Club, one of the nation's largest and most active organizations promoting outdoor activity and conservation of natural resources. From 1955 to 1961 he served as chairman of the clubs highly active conservation committee.

The awards are given annually to ten professional and ten non-professional conservationists. Winners are selected by an awards committee on the basis of dedicated work in the field of renewable natural resources which would not otherwise receive widespread public recognition.

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Dr. Robert R. Newell retired April 23 from the U.S. Naval Radiological Defense Laboratory, San Francisco. He had been medical consultant to the scientific director of the laboratory since he retired from the Stanford University School of Medicine in 1957.

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The Alumni Association of Oklahoma University Medical School is sponsoring a cocktail party, including hot hors d'oeuvres and cold canapes, for Monday, June 22, 6:00-8:00 p.m. in the Olympic Club, Olympian Room, 524 Post Street, San Francisco, for alumni attending the 1964 American Medical Association meeting. Ladies are invited. Cost will be $5 per person. Ticket reservations may be made in advance by writing to the chairman, Dr. Kemp H. Dowdy, 450 Sutter Street, San Francisco. Tickets will also be available at a booth near the AMA registration desk in San Francisco, and at the door of the Olympic Club.

EDUCATION NOTICES

MEETINGS AND COURSES

COMMITTEE ON CONTINUING MEDICAL EDUCATION

THIS BULLETIN of the dates of continuing education programs and the meetings of various medical organizations in California is supplied by the Committee on Continuing Medical Education of the California Medical Association. In order that they may be listed here, please send communications relating to your future meetings or postgraduate courses to Committee on Continuing Medical Education, California Medical Association, 693 Sutter Street, San Francisco, California 94102.

MEDICAL MEETINGS

JUNE MEETINGS

June 17-20 — **Society of Nuclear Medicine.** Berkeley. Wednesday-Saturday. Contact: S. N. Turiel, executive secretary, 333 North Michigan, Chicago 60601.

June 18-19 — **American Rheumatism Association.** St. Francis Hotel, San Francisco. Thursday-Friday. Contact: Gerard W. Speyer, executive secretary, 10 Columbus Circle, New York 19.

June 18-20 — **Endocrine Society.** Sheraton-Palace Hotel, San Francisco. Thursday-Saturday. Contact: Henry H. Turner, M.D., secretary, 200 North Walker, Oklahoma City.

June 18-21—**American Therapeutic Society**—St. Francis Hotel, San Francisco. Thursday-Sunday. Contact: Oscar B. Hunter, Jr., M.D., secretary, 915 19th Street NW, Washington 6, D.C.

June 18-22—**American College of Chest Physicians.** Jack Tar Hotel, San Francisco. Thursday-Monday. Contact: Murray Kornfield, executive director, 112 East Chestnut, Chicago 60611.

June 19-20 — **American Geriatrics Society.** Sir Francis Drake Hotel, San Francisco. Friday-Saturday. Contact: Edward B. Allen, M.D., secretary, 10 Columbus Circle, New York 19.

June 20—**Academy of Tuberculosis Physicians.** California Hotel, San Francisco. Saturday. Contact: George P. Bailey, M.D., secretary, 1295 Clermont, Denver 20.

June 20—**American Association for Study of Headache.** San Francisco. Saturday. Contact: Lester S. Blumenthal, M.D., secretary, 5315 Connecticut Avenue NW, Washington 15, D.C.

June 20-21—**American College of Legal Medicine.** St. Francis Hotel, San Francisco. Saturday-Sunday. Contact: Charles U. Letourneau, M.D., president, 60 East Scott, Chicago.

June 21-25 — **American Medical Association.** Fairmont and Mark Hopkins hotels and Civic Auditorium, San Francisco. Sunday-Thursday. Contact: F. J. L. Blasingame, M.D., vice-president, 535 North Dearborn, Chicago 60610.

June 21—**The 6th Annual Preconvention Session on School Health.** Sponsored by American Medical Association and American School Health Association. Golden Gate Room, Del Webb's Towne House, San Francisco. Sunday, 7:30 p.m. Contact: Wallace Ann Wesley, Hs. D., assistant director, Department of Community Health and Health Education, American Medical Association, 535 North Dearborn, Chicago.

June 21—**Society for Surgery of the Alimentary Tract.** San Francisco. Sunday. Contact: Robert Turell, M.D., executive secretary, 25 East 83rd Street, New York 28.

June 21—**Society for Vascular Surgery.** San Francisco. Sunday. Contact: George H. Yeager, M.D., secretary, 314 Medical Arts Building, Baltimore 1.

June 21-23 — **Society for Investigative Dermatology.** Sheraton-Palace Hotel, San Francisco. Sunday-Tuesday. Contact: Herman Beerman, M.D., secretary-treasurer, 255 South 17th Street, Philadelphia 3.

June 21-25—**Women's Auxiliary to the American Medical Association.** St. Francis Hotel, San Francisco. Sunday-Thursday. Contact: Margaret N. Wolfe, executive secretary, 535 North Dearborn, Chicago 60610.

June 22-24 — **American Laryngological, Rhinological and Otological Society.** San Francisco. Monday-Wednesday. Contact: Victor R. Alfaro, M.D., secretary, 917 20th Street NW, Washington, D.C.

June 22-24—**Association for Research in Ophthalmology.** San Francisco. Monday-Wednesday. Contact: Herbert Kaufman, M.D., executive secretary, c/o Hillis Miller Health Center, Gainesville, Florida.

June 26-July 1 — **Second Hawaii Medical Seminar.** Sponsored by Hawaii Medical Association. Honolulu, Hawaii. Friday-Wednesday. Contact: Lee McCaslin, executive secretary, Hawaii Medical Association, 510 South Beretania Street, Room 200, Honolulu 13, Hawaii.

AUGUST MEETING

August 11-14—**American Society for Pharmacology and Experimental Therapeutics.** San Francisco. Tuesday-Friday. Contact: H. George Mandel, secretary, George Washington University School of Medicine, Washington 5, D.C.

SEPTEMBER MEETING

September 10-November 5—**Stockton Postgraduate Study Club.** Scottish Rite Temple, 33 West Alpine, Stockton. Thursdays weekly, except October 1. Contact: James V. Roche, M.D., program chairman, 645 West Harding Way, Stockton.

September 24-26—**American College of Obstetricians and Gynecologists** (District 8). San Diego. Thursday-Saturday. Contact: Donald F. Richardson, executive director, 79 West Monroe, Chicago 3.

September 27-October 2—**Flying Physicians Association.** Tenth Annual Meeting. Riviera Hotel, Palm Springs. Sunday-Friday. Contact: John C. Chatterton, staff representative, Flying Physicians Association, 332 South Michigan Avenue, Chicago 60604.

September 30-October 2 — **34th Annual Postgraduate Symposium on Heart Disease**—St. Francis Hotel, San Francisco. Contact: Mr. Gene C. Taylor, executive director, American Heart Association, 259 Geary Street, San Francisco.

OCTOBER MEETINGS

October 8-10—**The American College of Physicians Fall Sectional Meeting.** Contact: Edward C. Rosenow, Jr., M.D., executive director, The American College of Physicians, 4200 Pine Street, Philadelphia 4, Pennsylvania.

October 11-16—**American Society of Plastic and Reconstructive Surgeons.** Fairmont Hotel, San Francisco. Sunday-Friday. Contact: Paul P. Pickering, M.D., executive secretary, 2850 Sixth Avenue, Suite B, Lower Level, San Diego.

October 16-17—**Western Industrial Medical Association.** Biltmore Hotel, Los Angeles. Friday-Saturday. Contact: Christine Einart, M.D., executive secretary, 2151 Berkeley Way, Berkeley 4.

FUTURE MEETINGS

November 4-7—**61st Annual Meeting of Nevada State Medical Association and 13th Annual Conference of Reno Surgical Society—Joint Meeting.** Reno.

November 12-15—**San Diego Chapter of the California Academy of General Practice Ninth Scientific Symposium.** Las Vegas.

December 2-4—**West Coast Allergy Society Annual Meeting.** Los Angeles.

POSTGRADUATE EDUCATION

AUDIO-DIGEST FOUNDATION

Audio-Digest Foundation (a non-profit subsidary of the California Medical Association) provides by subscription twice-a-month tape-recorded summaries of leading national meetings and authoritative surveys of current literature. Seven separate services in: General Practice, Surgery, Internal Medicine, Obstetrics-Gynecology, Pediatrics, Anesthesiology, and Ophthalmology. A new Catalog of outstanding lectures and panel discussions in all areas of medical practice is also available. For information, write: Mr. Claron L. Oakley, Editor, 619 South Westlake Avenue, Los Angeles.

UNIVERSITY OF CALIFORNIA AT LOS ANGELES

June 20-21—**Surgery of the Hand.** Saturday-Sunday. 12 hours.*

July 1-5—**Seminars for General Practitioners.** University of California Residential Conference Center, Lake Arrowhead. Wednesday-Sunday. $100 plus room and board.†

July 5-8—**Advanced Seminars in Pediatrics.** University of California Residential Conference Center, Lake Arrowhead. Sunday-Wednesday. $100 plus room and board.†

July 12-15—**Advanced Seminars on the Clinical Application of Immunology.** University of California Residential Conference Center, Lake Arrowhead. Sunday-Wednesday. $100 plus room and board.†

August 7-9 — **Controversial Areas in Anesthesiology.** Friday-Sunday. 18 hours.*

August 9-12—**Advanced Seminars in Internal Medicine.** University of California Residential Conference Center, Lake Arrowhead. Wednesday-Sunday. $100 plus room and board.†

August 12-16—**Fifth Annual Advanced Seminars in Dermatology.** University of California Residential Conference Center, Lake Arrowhead. Wednesday-Sunday. $100 plus room and board.

August 20-22—**Progress in Obstetrics.** Thursday-Saturday. 18 hours.*

August 23-26—**Seminars on Medical Teaching.** University of California Residential Conference Center, Lake Arrowhead. Sunday-Wednesday. No fee.†

October 16-November 6—**Postgraduate Medical Lecture Series in Australia and New Zealand.** Monday-Friday. 32 hours. $200.

Dates by Arrangement—**Clinical Traineeship**—Anatomy, Anesthesia, Dermatology, Pediatrics, Radioisotopes, Urology: 2 weeks, $150; 4 weeks, $250. Minimum period, 2 weeks.

For information on courses for physicians or ancillary personnel, contact: Thomas H. Sternberg, M.D., Assistant Dean and Head, Department of Continuing Education in Medicine and Health Sciences, U.C.L.A. Medical Center, Los Angeles 24, 478-9711, Ext. 2114.

LOMA LINDA UNIVERSITY

As Arranged—**Traineeships** in clinical and other departments are available by arrangement with department chairmen of the Postgraduate Division. 80 hours minimum.

Anesthesia, 6 months. 250-300 hours. $350.

Pulmonary Diseases—can be arranged.

Continuously—**Illustrated Medical Lectures:** 30-minute tape recordings and accompanying 35-mm filmstrip, 50 to 80 full-color pictures for screen, hand or desk viewer. Available individually or by subscription. 12 or 36 titles per year, all titles produced in one year in any chosen specialty. Projectors and viewers included in subscription plans. Contact: Loma Linda University, Illustrated Medical Lectures, Los Angeles 33.

For course information contact: W. F. Norwood, Ph.D., Assistant Dean and Chairman, Division of Continuing Education, Loma Linda University School of Medicine, 1720 Brooklyn Ave., Los Angeles, California 90033, ANgelus 9-7241, Ext. 214.

UNIVERSITY OF CALIFORNIA, SAN FRANCISCO

June 19-20—**Epilepsy—United Cerebral Palsy.** Friday-Saturday.

September 8-April 27—**Radiological Physics.***†

September 14-16—**Recent Advances in Internal Medicine: Clinics and Demonstrations.** $60.†

September 15-December 8—**Medical Radio Conferences.** Northern California.*†

September 17-December 10—**Medical Radio Conferences.** Northern California.*†

September 18-19—**Pediatrics—Cerebral Palsy and Related Disorders.***†

September 18-October 23—**Psychiatry in the Daily Practice of Medicine.** Modesto.*†

September 23-December 16—**Psychotherapeutic Medicine for Non-Psychiatrists and Paramedical Specialists.***†

September 24-October 29—**Neuropsychiatry in General Practice.** Napa State Hospital.*†

September 26-27—**Complications: Medical and Surgical Management.** Franklin.*†

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*Fee to be announced.
†Hours to be announced.

September 26-27—**Neuropsychiatry for the Non-Psychiatric Physician in General Practice.** Sacramento.*†

September 29-November 3 — **Clinical Considerations in Mental Retardation.** Sonoma.*†

October 3-4—**Psychiatric Management in General Medicine.** San Mateo.*†

October 6-November 17—**Evening Lectures in Medicine.** Oakland Hospital.*†

October 8-10—**Obstetrics and Gynecology.***†

October 10-11—**Cytology Symposium.***†

October 13-November 17 — **Neuropsychiatry in Daily Practice.** Agnews State Hospital.*†

October 16-17—**Surgery of the Hand and Forearm.***†

October 17—**Infectious Diseases in Childhood.** Children's Hospital.*†

October 22-24—**Southwestern Medical Association.** Las Vegas.*†

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(BRP)—Bureau of Research and Planning; (CMA)—California Medical Association; (CR)—Case Report; (CS)—Cancer Studies; (Ed.)—Editorial; (I)—Information; (LE)—Letter to Editor; (Misc.)—Miscellaneous; (Or.)—Original Article; (PE)—Page End; (RSB)—Report of Scientific Board.

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The alcohol reaction can cause flushing and an itching skin eruption shortly after alcohol is taken by persons who ingest disulfiram or are exposed externally to thiram, Dr. Shelley said.

Danish physicians discovered in 1948 that thiram and its derivatives sensitize an individual to alcohol. The drug, disulfiram, later came into use as a means of dissuading alcoholics from drinking.

That external exposure to thiram also produces alcohol sensitization was first reported by M. J. Villiaumey in 1954. He described a man using thiram ointment and powder who developed temporary flushing, swelling and burning of the face and neck when he drank wine or other alcoholic beverages.

Dr. Shelley also cited the case of a woman who experienced flushing of her face every time she drank a cocktail and then took a bath with soap containing thiram.

The alcohol phenomenon is a pharmacological reaction, he explained. More rare is the allergic reaction which occurs when a person previously sensitized to thiram later comes into contact with the chemical, he said.

The case of a 51-year-old man who developed a progressively more severe skin inflammation from July, 1959, until August, 1963, was reported by Dr. Shelley. Investigation revealed that he had regularly used a soap which at one time contained thiram and later had come into contact with the chemical through a thiram turf fungicide used to spray a golf course on which he played.

Thiram has been known to be a skin sensitizer since the early 1920's when it was first detected as the cause of a skin disease in certain rubber-industry workers, according to the article. Thiram is used as catalyst in the vulcanization of rubber.

In the 1930's it was discovered that thiram was a powerful fungicide, Dr. Shelley said, and it is now being used to treat the soil, the seeds, the plants, and even the products of fruits, vegetables, nuts, and mushrooms.

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REFERENCES AND REVIEWS

Chronic Alcoholism With Fatty Metamorphosis of the Liver—D. J. Svoboda (University Medical Center, Kansas City, Kan.) and R. T. Manning. Amer. J. Path. 44:645 (April) 1964.

Electron microscope study of needle biopsy specimens from the livers of patients with moderate to marked fatty metamorphosis and evidence of excessive alcohol consumption for several years disclosed a number of abnormalities in mitochondrial structure. The most conspicuous change was the presence of crystal-like inclusions resembling "myelin degeneration," often accompanied by marked mitochondrial enlargement. Other changes included the presence of abnormally large dense bodies in the mitochondrial matrix, cavitation of mitochondria and rearrangement of cristae. Crystalline inclusions in mitochondria may be related to alterations in the hydration state of liver cells or to disordered phospholipid metabolism in mitochondria. They are found in a variety of human liver disorders and, like the other mitochondrial changes described in this study, probably represent a nonspecific degenerative phenomenon.

* * *

Plasma Glycoproteins in Malignant Disease—R. A. Macbeth (University of Alberta Hosp., Edmonton, Alberta, Canada) and J. G. Bekesi. Arch. Surg. 88:633 (April) 1964.

Studies of the hexoses of plasma glycoproteins in 648 patients and of all known carbohydrates of the plasma glycoproteins in 112 patients revealed that these compounds were markedly elevated in patients with cancer. Sequential observations on the plasma of rats bearing Walker 256 carcinoma are also presented together with tissue studies in the rat which suggest that the liver is the prime source of the elevated glycoproteins.

* * *

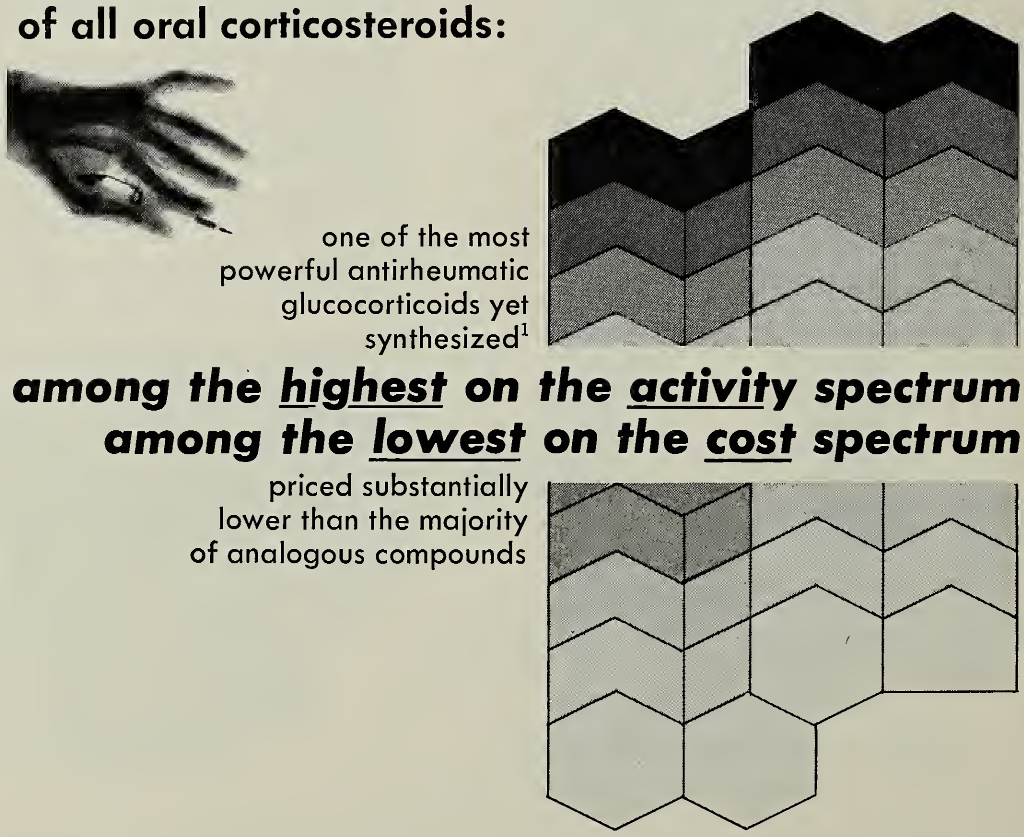
Fractures of Facial Bones—J. W. Gerrie (1414 Drummond St., Montreal) and R. W. Hakstian. Canad. Med. Ass. J. 90:623 (March 7) 1964.

A detailed review was made of 1,025 consecutive patients with face bone fractures admitted to four Montreal hospitals over the five-year period 1958-1962 inclusive. In addition, a survey was carried out of the other general hospitals in greater Montreal in order to obtain admission figures for face bone fractures and for total hospital cases. In the study group the common causes of face bone fractures were found to be interpersonal altercations, traffic accidents, falls, and athletic pursuits. Very few of these injuries occurred in industrial settings. A distinctly vulnerable group is made up of males between ages 16 and 35 years. In order of frequency of occurrence these injuries involve the nose, lower jaw, cheek bone, upper jaw, and zygomatic arch. The experience throughout metropolitan Montreal indicated that more face bone fracture cases require hospital treatment each year, but the increase is approximately parallel to the upward trend of total hospital admissions.

* * *

Asepsis in the Operating Theater—W. H. Cockcroft (5611 Highbury St., Vancouver, B.C.) and F. R. C. Johnstone. Canad. Med. Ass. J. 90:659 (March 14) 1964.

In the investigation of several blood stream infections following open heart surgery, sutures and other material that had been exposed and handled in the sterile field were examined bacteriologically. During the study period 175 open



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* * *

SICKLE CELL TRAIT AND SUPERIOR LONGITUDINAL SINUS THROMBOSIS—E. A. Schenk (Strong Memorial Hosp., Rochester, N.Y.). Ann. Intern. Med. 60:465 (March) 1964.

Fatal cases of sickle cell trait are reviewed, and a case of superior longitudinal sinus thrombosis in a patient with sickle cell trait is presented. The increasing number of reports dealing with nonfatal and fatal complications of this disorder indicate that early diagnosis and patient and physician awareness of the presence of hemoglobin S are of great importance in terms of avoidance of situations known to potentiate sickling.

* * *

MANAGEMENT OF ABDOMINAL INCISIONS: A SURVEY OF CURRENT PRACTICES—R. S. Smith (312 W. Idaho St., Boise, Idaho). Arch. Surg. 88:515 (April) 1964.

The present status of various celiotomy techniques is indicated by questionnaire responses of the Western Surgical Association members. Vertical incisions, non-absorbable sutures, and counter incisions for abdominal drainage are in the majority favor. Removable stay sutures are generally reserved for complicated situations. Buried mass sutures are now widely used. Chromic cat gut and stainless steel sutures are preferred for closure of contaminated wounds. For wound dehiscence, removable through-and-through sutures are commonly employed, with limited application of techniques of layer suturing, mass suturing, and delayed closure.

* * *

CYSTS OF DORSAL ROOT GANGLIA—R. C. Dickenman (14th & Noe Sts., San Francisco) and J. L. Shason. Arch. Path. 77:366 (April) 1964.

Twenty-nine cysts of dorsal root ganglia in approximately 5,000 patients examined at autopsy are described. The literature of about 100 patients with cysts of the dorsal root ganglia is reviewed, and theories of origin for these cysts are evaluated. The authors suggest that a combination of lymphatic obstruction and hydrostatic pressure seems to explain adequately the sites of involvement, the age of recurrence, and the morphology of the cysts of the dorsal root ganglia.

* * *

THE RH ANTIGEN E^w—H. Kaita, M. Lewis, and B. Chown (Rh Laboratory, 735 Notre Dame Ave., Winnipeg, Canada). Transfusion, 4:118 (March-April) 1964.

Another case of a white family carrying Rh antigen E^w is reported. In this case the antigen was traced through three generations and found present in all three of them.

* * *

SECURITY AS A MOTIVATION OF HUMAN BEHAVIOR—J. C. Borel (Camarillo State Hosp., Box A, Camarillo, Calif.) Arch. Gen. Psychiat. 10:105 (Feb.) 1964.

An inherent striving to reduce "environmental" situations to cause-and-effect relationships, and thus enable the individual to predict and control these situations, is seen as a basic part of human behavior. It is further suggested that "security" is intimately involved with the individual's self-concept. Possible applications of the orientation of "security" to emotions and emotional maturity are proposed.

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1. Ringler, I., West, K., Dulin, W. E. and Boland, E.W.: Metabolism 13:37, 1964.
2. Black, R. L., et al.: Arthritis and Rheumatism 3:112 (April) 1960.

PRECAUTIONS: At therapeutic dose levels, DEXAMETH (dexamethasone) may have less tendency to cause sodium or water retention, potassium excretion, disturbance in glucose metabolism or hypertension than some of the older steroids. With these exceptions, however, the drug may give rise to the metabolic and hormonal side effects characteristic of corticosteroids. It should, therefore, be used with great caution in the presence of tuberculosis and other infections, osteoporosis, peptic ulcer, fresh intestinal anastomoses. diverticulitis, thrombophlebitis, herpes simplex, psychotic tendency, pregnancy and in persons exposed to chickenpox, measles or scarlet fever.

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Dosage and administration	*Usual daily dose*
Mild to moderate psychoneurotic reactions: Manifested by anxiety-tension alone or with depressive symptomatology, agitation, restlessness, psychophysiological disturbances	2 mg to 5 mg, 2 or 3 times daily
Severe psychoneurotic reactions: Where severe anxiety, fear, agitation, aggression or hostility exist alone or with depressive symptoms	5 mg to 10 mg, 3 or 4 times daily
Alcoholism: As an aid in symptomatic relief of acute agitation, tremor, impending or acute delirium tremens and hallucinosis	10 mg, 3 or 4 times during the first 24 hours; reducing to 5 mg, 3 or 4 times daily as needed
Muscle spasm associated with cerebral palsy or athetosis	2 mg to 10 mg, 3 or 4 times daily

Contraindications: Valium (diazepam) is contraindicated in infants, patients with a history of convulsive disorders or patients with a history of glaucoma.

Warning: Valium (diazepam) is not of value in dealing with psychotic patients manifesting anxiety and should be avoided when there is reason to believe the patient is psychotic.

Precautions: In elderly or debilitated patients, it is important to limit the dosage to the smallest effective amount to preclude the development of ataxia or oversedation (not more than 1 mg, 1 or 2 times daily initially, to be increased gradually as needed and tolerated). As is true of all CNS-acting drugs, until the correct maintenance dosage is established, patients receiving Valium (diazepam) should be advised against possibly hazardous procedures requiring complete mental alertness or physical coordination. Driving an automobile during the period of Valium (diazepam) therapy is not recommended. In general, the concurrent administration of Valium (diazepam) and other psychotropic agents is not recommended. If such combination therapy is used, careful consideration should be given to the pharmacology of the agents to be employed with Valium (diazepam)—particularly with known compounds which may potentiate the action of Valium (diazepam), such as phenothiazines, barbiturates, MAO inhibitors and other antidepressants.

Since Valium (diazepam) has a central nervous system depressant effect, patients should be advised against the simultaneous ingestion of alcohol and other central nervous system depressant drugs during Valium (diazepam) therapy. Safe use of Valium (diazepam) during pregnancy has not been established. The usual precautions are indicated when Valium (diazepam) is used in the treatment of anxiety states where there is any evidence of impending depression; particularly the recognition that suicidal tendencies may be present and protective measures may be necessary. The usual precautions in treating patients with impaired renal or hepatic function should be observed.

Side effects: In clinical use, fatigue, drowsiness and ataxia have been reported; in most instances these are dose-related and may be avoided by proper dosage adjustment. Mild nausea and dizziness may occur on occasion. As with any new agent, when it is administered for protracted periods of time, periodic blood counts and liver function tests are advisable. Abrupt cessation after prolonged overdosage may, in some patients, produce withdrawal symptoms (*e.g.*, convulsions, tremor, abdominal and muscle cramps, vomiting, sweating) similar to those seen with barbiturates, meprobamate and Librium® (chlordiazepoxide HCl). Changes in EEG patterns have been observed in patients during and after Valium (diazepam) treatment.

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BOOKS RECEIVED

Books received by CALIFORNIA MEDICINE *are acknowledged in this column. Selections will be made for more extensive review in the interest of readers as space permits.*

ACCIDENT SURGERY—Volume Two—edited by H. Fred Moseley, M.A., D.M., M.Ch. (Oxon.), F.R.C.S. (Eng. and Canada), F.A.C.S. Director of Accident Service and Surgeon, Royal Victoria Hospital; Associate Professor of Surgery, McGill University, Montreal; Hunterian Professor, Royal College of Surgeons of England. Illustrated by Helen Macarthur Moseley. Appleton-Century-Crofts, Division of Meredith Publishing Company, New York, 1964. 374 pages, $12.00.

ANDREAS VESALIUS OF BRUSSELS—1514-1564—C. D. O'Malley. University of California Press, Berkeley and Los Angeles, 1964. 480 pages, $10.00.

ARTERIAL SURGERY—Proceedings of a Conference held at Law Hospital, Carluke, Scotland, January 1963—Edited by W. A. Mackey, J. A. Macfarlane, and M. S. Christian. A Pergamon Press Book distributed by The Macmillan Company, New York, 1964. 170 pages, $7.00.

ATLAS OF BLOOD CYTOLOGY—Cytomorphology, Cytochemistry and Cytogenetics—G. Forteza Bover, M.D., with the collaboration of R. Baguena Candela, M.D. Translated by F. G. Golton, J. Vinas and J. Triginer; preface by William Dameshek, M.D. Distributed in the U.S.A. by Grune & Stratton, Inc., New York, 1964. 511 pages, $39.50.

ADVANCES IN BIOLOGICAL WASTE TREATMENT—Proceedings of the Third Conference on Biological Waste Treatment. Sponsored by Manhattan College, New York, April 20-22, 1960. Edited by W. W. Eckenfelder, Jr., and Brother Joseph McCabe. A Pergamon Press Book distributed by The Macmillan Company, New York, pursuant to a special arrangement with Pergamon Press Limited, Oxford, England, 1963. 440 pages, $20.00.

ATRIOVENTRICULAR NODE, THE—And Selected Cardiac Arrhythmias—David Scherf, M.D., F.A.C.P., Professor of Clinical Medicine, New York Medical College; and Jules Cohen, M.D., F.A.C.P., Associate Professor of Clinical Medicine, New York Medical College. Grune & Stratton, Inc., 381 Park Avenue South, New York, N.Y., 1964. 466 pages, $18.75.

BIOASTRONAUTICS—edited by Karl E. Schaefer, United States Naval Medical Research Laboratory, Groton, Connecticut. The Macmillan Company, New York; Collier-Macmillan Limited, London, 1964. 406 pages, $16.00.

CIBA FOUNDATION STUDY GROUP NO. 16—THE IMMUNOLOGICALLY COMPETENT CELL: Its Nature and Origin. In honour of Sir Macfarlane Burnet, O.M. Edited by G.E.W. Wolstenholme, O.B.E., M.A., M.B., M.R.C.P. and Julie Knight, B.A. Little, Brown and Company, Boston, 1963. 110 pages, $2.95.

COMMUNICABLE AND INFECTIOUS DISEASES—Diagnosis, Prevention, Treatment—Fifth Edition, Franklin H. Top, A.B., M.D., M.P.H., F.A.C.P., F.A.A.P., F.A.P.H.A., Professor and Head, Department of Hygiene and Preventive Medicine, State University of Iowa, Iowa City, Iowa; Director, University Department of Health, and Director, Institute of Agricultural Medicine, State University of Iowa. The C.V. Mosby Company, St. Louis, Mo., 1964. 902 pages, $21.00.

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HANDBOOK OF SURGERY. Edited by John L. Wilson, M.D., and Joseph J. McDonald, M.D. 2nd ed. 690 pages. 1963. Lange. $4.50 (flexible cover)

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COMPARATIVE NEUROCHEMISTRY—Proceedings of the Fifth International Neurochemical Symposium—edited by Derek Richter, Medical Research Council, Neuropsychiatric Research Unit, Carlshalton Surrey. A Pergamon Press Book, distributed by The Macmillan Company, New York, pursuant to a special arrangement with Pergamon Press Limited, Oxford, England, 1964. 491 pages, $14.00.

DATA ACQUISITION AND PROCESSING IN BIOLOGY AND MEDICINE—Proceedings of the 1962 Rochester Conference—Volume 2, edited by Kurt Enslein, Rochester N.Y. A Pergamon Press Book distributed by The Macmillan Company, New York, 1964. 367 pages, $11.50.

DISORDERS OF LANGUAGE—Ciba Foundation Symposium—edited by A.V.S. De Reuck, M.Sc., D.I.C., A.R.C.S., and Maeve O'Connor, B.A. Little, Brown and Company, Boston, Massachusetts, 1964. 356 pages, $11.00.

ESSAY ON COLOR VISION AND CLINICAL COLOR-VISION TESTS, AN—Arthur Linksz, M.D., F.A.C.S., Clinical Professor of Ophthalmology, New York University Post-Graduate Medical School, New York, New York, and Attending Surgeon, Manhattan Eye, Ear and Throat Hospital, New York, New York. Grune & Stratton, Inc., New York and London, 1964. 254 pages, $15.75.

EXCEPTIONAL CHILD IN THE FAMILY, THE—Helping Parents of Exceptional Children—Alan O. Ross, Ph.D., Chief Psychologist, Pittsburgh Child Guidance Center; Adjunct Professor of Psychology, University of Pittsburgh. Grune & Stratton, New York and London, 1964. 230 pages, $6.75.

EXPERIMENTAL SURGERY—Including Surgical Physiology—Fifth Edition—J. Markowitz, M.B.E., M.B. (Tor.), Ph.D., M.S. in Exp. Surg. (Minn.), Professor of Physiology, University of Toronto; Visiting Professor of Physiology, Ontario Veterinary College, Guelph, Ont.; J. Archibald, D.V.M., M.V.Sc. (Tor.), Dr. med. vet. (Giessen), M.R.C.V.S., Professor & Head of the Division of Small Animal Medicine and Surgery, Ontario Veterinary College, Guelph, Ont.; and H. G. Downie, D.V.M. (Tor.) M.S. (Cornell), M.V.Sc. (Tor.), Ph.D. (Western Ontario), Professor & Head, Department of Physiological Sciences, Ontario Veterinary College, Guelph, Ont. The Williams & Wilkins Company, Baltimore 2, Md., 1964. 659 pages, $13.00.

FITNESS FOR THE WHOLE FAMILY—edited by Paul Dudley White, M.D., and Curtis Mitchell. Line Drawings by Attilio Sinagra. Doubleday & Company, Inc., New York, 1964. 302 pages, $4.95.

GENETICS TODAY—Volume I, Abstracts—Proceedings of the XI International Congress of Genetics, The Hague, The Netherlands, September 1963—edited by S. J. Geerts, in collaboraton with J.H.F. V. Abeelen; G.J.P.A. Anders; G.A. Van Arkel; J.A. Beardmore; F. Bianchi; J.M. Van Brink; H.J. Gloor; W.K. Hirschfeld; P.H.W. Van Der Kroon; J.H. Van De Pol; R. Prakken; F.H. Sobels; C. Stumm; J.H. Van Der Veen. A Pergamon Press Book distributed by The Macmillan Company, New York, pursuant to a special arrangement with Pergamon Press Limited, 1963. 332 pages, $15.00.

HOSPITAL AND COMMUNITY—Studies in External Relationships of the Administrator—Laura G. Jackson, B.S., M.I.C.S. (Hon.), Associate Professor Emeritus and formerly Associate Director, Program in Hospital Administration, Northwestern University, Chicago, Illinois. The Macmillan Company, New York; Collier-Macmillan Limited, London, 1964. 822 pages, $15.00.

HUMAN LABOR AND BIRTH—Harry Oxorn, B.A., M.D., C.M., F.A.C.S., F.R.C.S. (C), Lecturer in Obstetrics and Gynecology, McGill University; Associate Obstetrician and Gynecologist, Royal Victoria Montreal Maternity Hospital, Montreal, Canada; and William R. Foote, B.A., M.D., C.M., F.A.C.S., F.R.C.O.G., F.R.C.S. (C), Associate Professor of Obstetrics and Gynecology, McGill University; Obstetrician and Gynecologist, Royal Victoria Montreal Maternity Hospital, Montreal, Canada. Appleton-Century-Crofts (A Division of Meredith Publishing Company), New York, 1964. 485 pages, $7.95 (Paperbound).

LEUKEMIA—Second Edition, Revised and Enlarged—William Dameshek, M.D., Professor of Medicine, Tufts University School of Medicine; Senior Physician and Di-

(Continued on Page 57)

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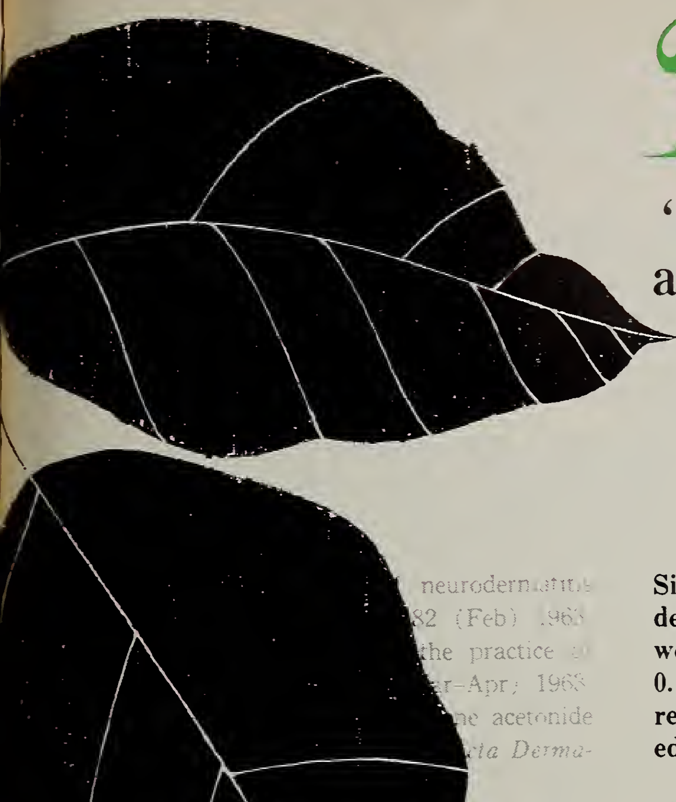

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with topical fluocinolone acetonide and occlusive
, Brit Med J 5343:1450 (June 1) 1963.
J. A.: Psoriasis: topical treatment with fluocin-
acetonide. Hospital (Rio) 64:95 (July) 1963.
berg, A., and Hellgren, L.: Fluocinolone acetonide
al therapy of eczema, psoriasis and discoid lupus
matosus. Svensk Lakartidn 60:1334 1963.
A.; Bafverstedt, B.; and Herdenstam, C. G.: Cor-
roids –application in dermatology. Svensk Lakartidn
326 1963.
V.: Considerations on the local therapy of psori-
with fluocinolone acetonide. Presented at Meeting of
Ital Derm Syph, Bari (June 1–2) 1963.
lozzi, G.: Clinical experiments with a new topical
steroid: fluocinolone acetonide. Dermatologia (Na-
14:86 1963.
I. C.; Wapner, P.M., and Brownstein, I. E.:
use of fluocinolone acetonide cream for relief
and perineal pruritus. Albert Einstein Med J
July) 1963.
J. Clinical experimentation with Synalar
particularly under occlusive dressing in a series of
dermatoses. l'Inform Therap 4:9 (Apr) 1963.
berg, A., and Hellgren, L.: Treatment of
lupus erythematosus with fluocinolone acetonide.
J Derm 75:156 1963.
Munoz, M.: A new steroid in topical dermatologic
Synalar and Synalar-N. in press: Mediterranea.

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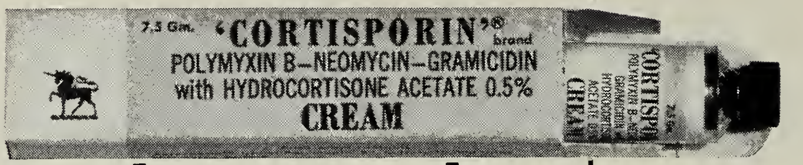
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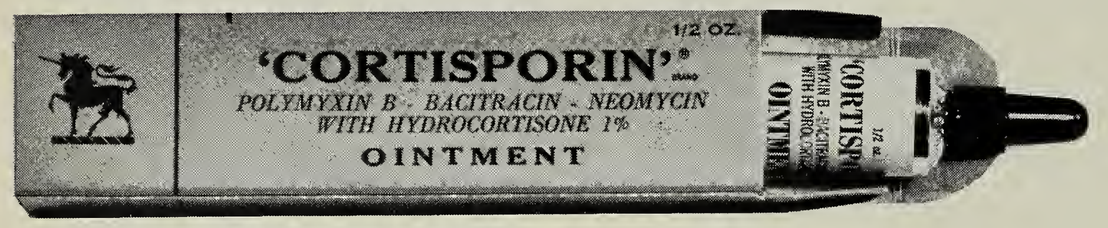
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rarely sensitizing

CREAM—*Ingredients:* Each gram contains 'Aerosporin'® brand Polymyxin B* Sulfate 10,000 Units; Neomycin Sulfate (equivalent to 3.5 mg. Neomycin Base) 5.0 mg.; Gramicidin 0.25 mg.; Hydrocortisone Acetate 5.0 mg. (0.5%).

In a smooth, white, water-washable vanishing cream base with a pH of approximately 5.0. Inactive ingredients: liquid petrolatum, white petrolatum, propylene glycol, polyoxyethylene polyoxypropylene compound, emulsifying wax, distilled water, and 0.25% methylparaben as preservative.

Available: In tubes of 7.5 Grams.

OINTMENT—*Ingredients:* Each gram contains 'Aerosporin'® brand Polymyxin B* Sulfate 5,000 Units; Zinc Bacitracin 400 Units; Neomycin Sulfate 5 mg. (equivalent to 3.5 mg. Neomycin Base); Hydrocortisone 10 mg. (1%).

In a special white petrolatum base.

Available: In tubes of ½ oz. and ⅛ oz.

*U.S. Patent Nos. 2,565,057—2,695,261

Indications: Wherever inflammation or infection occurs and is accessible for topical therapy.

Contraindications: These drugs are contraindicated in tuberculous, fungal or viral lesions (herpes simplex, vaccinia and varicella).

Caution: As with other antibacterial preparations, prolonged use may result in overgrowth of nonsusceptible organisms, including fungi. Appropriate measures should be taken if this occurs.

Complete literature available on request from Professional Services Dept. PML.

BURROUGHS WELLCOME & CO. (U.S.A.) INC., Tuckahoe, N.Y.